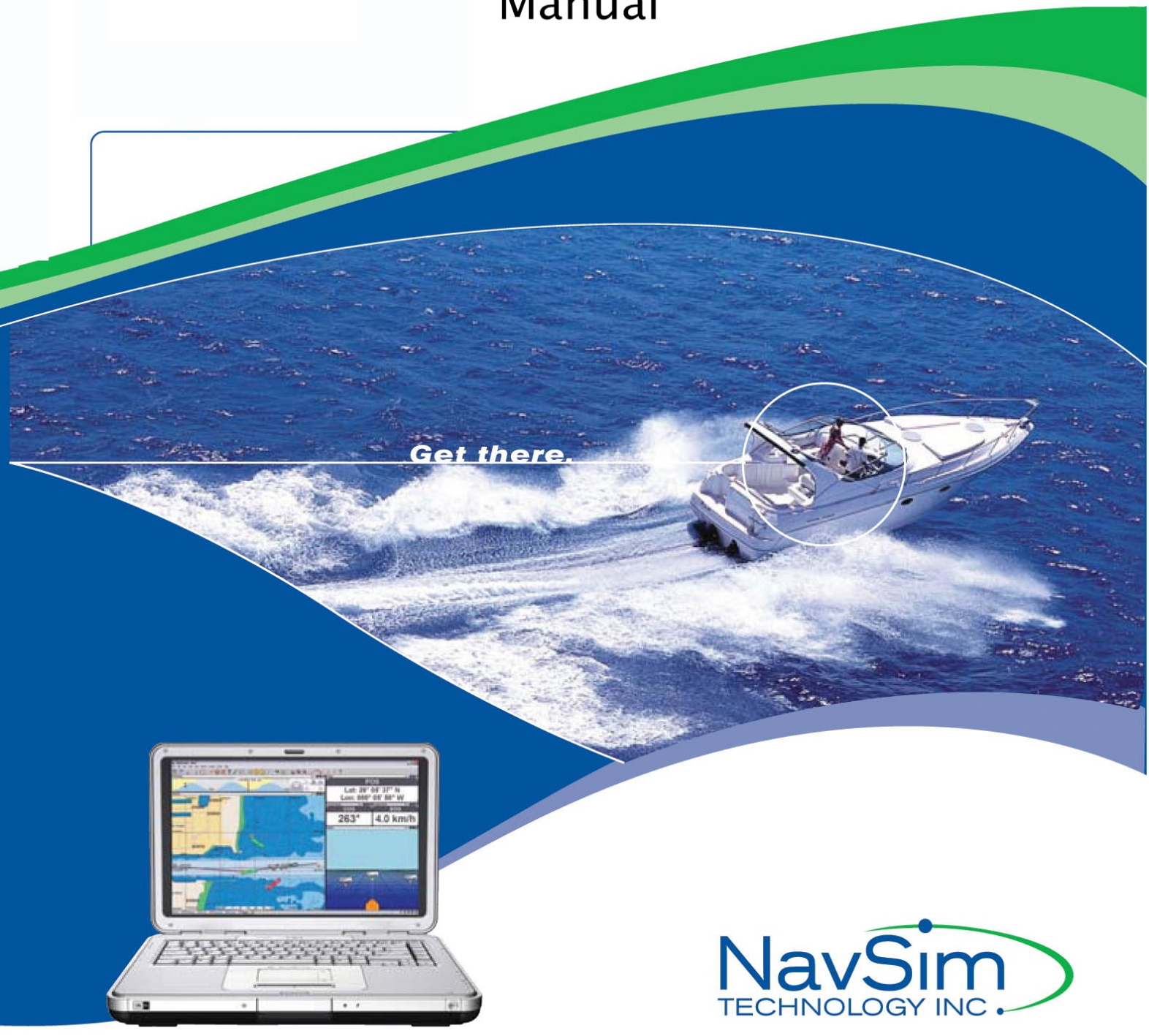
BOATCRUISER™ 2.0
SAILCRUISER™
NAVCRUISER™ PRO

Printable

Help

Manual



NavSim TECHNOLOGY INC.

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Welcome to NavSim Technology's Help Section

Version 3.0

This help file applies to:

These programs are the ideal PC-based electronic chart viewing and navigation aids for both recreational and professional mariners. Developed by NavSim Technology Inc. [www.navsim.com], principal functions include viewing and managing Nautical Charts and Topographic Maps as well as tracking the vessel's position in real time with a compatible GPS receiver.

Before you Start

It is recommended to use a mouse with a scroll wheel, as this enables one to Zoom in and out of Charts with great ease. Before beginning to use the navigational software, please take a minute to get familiar with Screen Layouts and Basic Operations.

Features of NavSim Technology Electronic Navigation Software

- Advanced navigation features including real-time GPS tracking, AIS, dual positioning , eta calculations, and parallel indexing
- Support for many of the common chart types including S-57, C-Map, BSB, and Topo maps.
- Support for many marine navigation devices supporting the NMEA 0183 protocol including GPS, AIS, ARPA, Anemometer, Gyro / Gyro Compass, Depth Sounder / Fish Finder, and Autopilot.

- Complete control over units featuring independent control of different measurement types such as distance, speed, xte, depths, time, etc.
- Extensive chart viewing capabilities featuring seamless chart quilting, chart rotations and split screen (split screen only available in NavCruiser PRO).
- Fully customizable screen displays including color settings, layouts, and toolbars.
- Custom chart objects including routes, markers, zones, tracks, and annotations.
- Many other exciting features including track 2 route conversion, fuel calculator, time management system, tidal information, sophisticated simulation and C-Map C-CARD support

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Working With Charts

• About Charts	• Hiding Charts	• Zooming
• Supported Chart Types	• Chart Quilting	• Panning
• Chart Datum	• Switching Between Single/Multiple Chart Mode	• Chart Tilting
• World Chart as Default View	• Changing Chart Colour Mode	• Main Chart View Scale
• Viewing Detailed Chart Information	• Viewing Imported Chart List	• Adding Or Removing Scale Bar
• Removing Charts	• List Charts Quilted Under Cursor	• Changing Scale Unit System

About Charts

Charts are the heart of the program. The software is designed to allow users to interact with charts in order to plan, navigate, and better enjoy their time on the water. For information on importing charts into the program, please refer to Importing.

Supported Chart Types

The program supports the following chart types. In addition to these types, C-Map NT+, MAX and MAX Pro charts are also supported.

Charts:

- BSB (*.kap;*.cap)
- SoftChart(*.geo)
- GeoTiff (*.tif)
- Maptech (*.sph;*.aer;*.024;*.100)
- S57 Vector (*.000)

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Chart Datum

A datum is a model used to define the size, shape & centre of the earth. It is used to establish latitude and longitude coordinate locations for points on the Earth's surface.

There are a variety of datums in active use, resulting in the possibility that co-ordinates of a given location calculated using one

datum may differ by hundreds of feet from the same co-ordinates calculated from another datum. Before relying on any co-ordinate location information, it is important to know what datum was used in establishing the co-ordinates.

The World Geodetic System 1984 (WGS84) is the most commonly used worldwide datum. The program displays all co-ordinates in the WGS84 datum. To do this, co-ordinates may have to be "shifted" into the WGS84 datum. In some cases the program will be unable to determine the original datum of charts, or be unable to shift the datum into the WGS84 datum. In these cases the program will assume the chart datum to be WGS84 & display "Assuming WGS84" in red letters in the chart info page.

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World Chart as Default View

As mentioned in the Basic Operations help page, the default background chart displayed by the program is the World Chart for both C-Map and Other mode. The World Chart can always be brought into full view by clicking on the World View button in the Main Toolbar.

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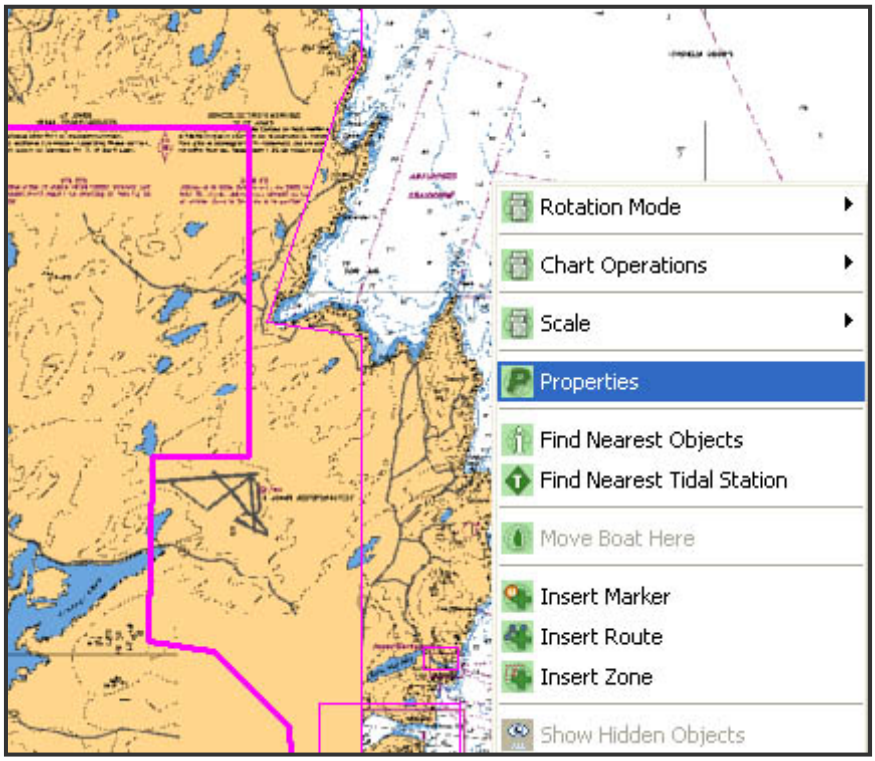
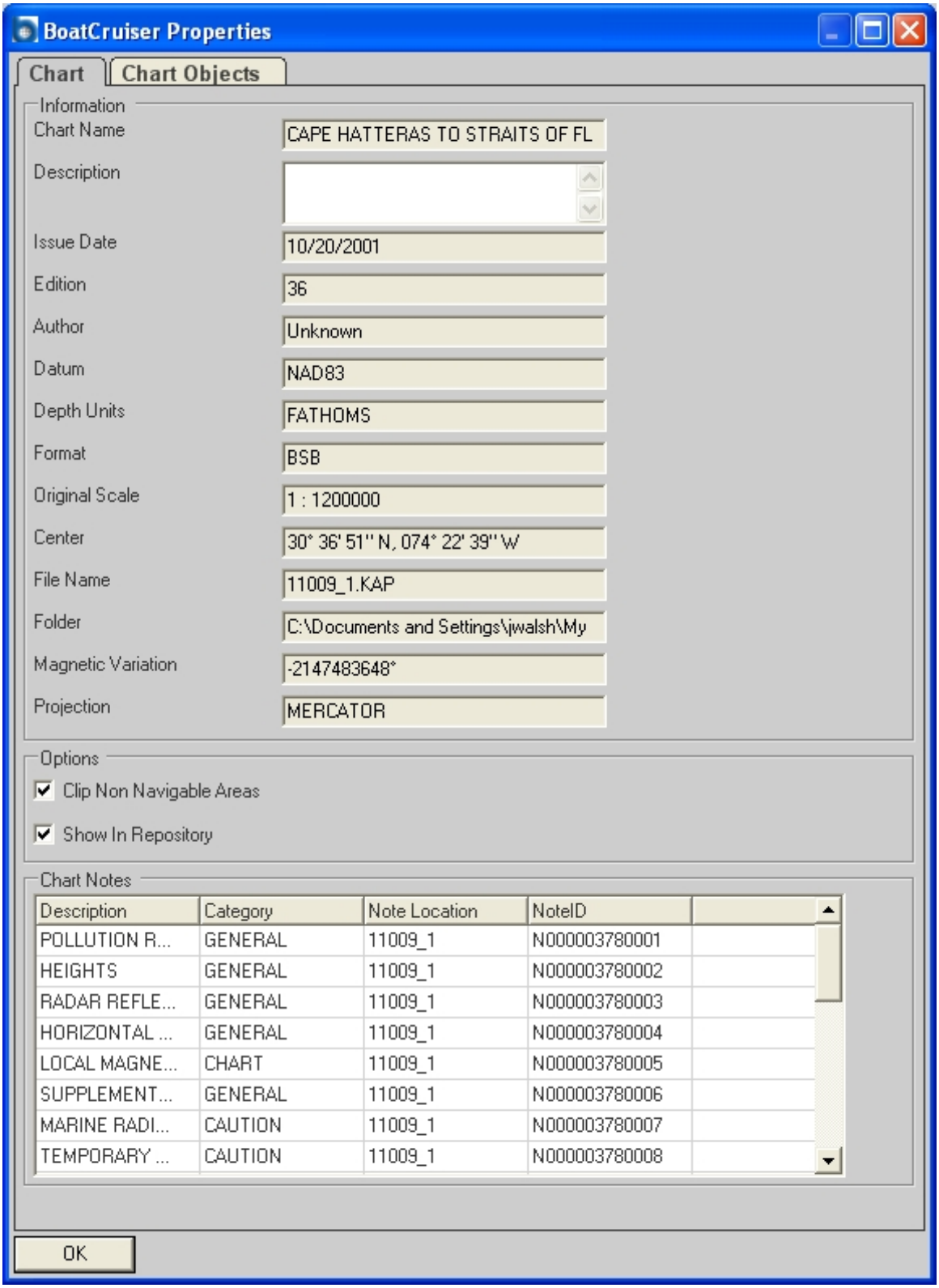
Viewing Detailed Chart Information

Detailed Chart Information can be found in the Chart tab of the Properties view, as well as in NavManager.

To view the Chart Information in the Properties view, open a layout containing the properties viewer by right-clicking on the chart and choosing Properties, then select the Chart tab from the Properties viewer (see image below this one.)





Access to Properties can also be obtained through NavManager. Open NavManager , right-click on the Chart, then left-click on Properties.

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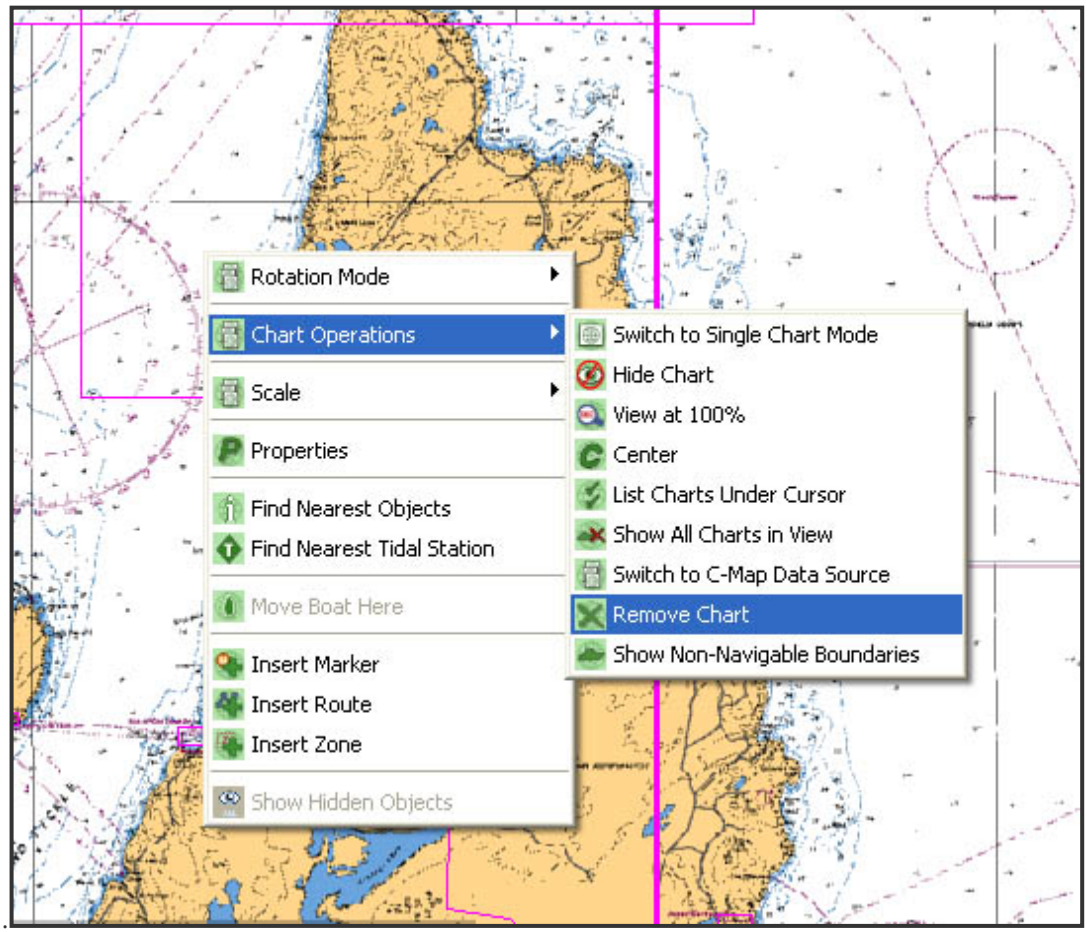
Removing Charts

Note that removing a Chart does not delete the Chart from the computer, but just removes the Chart from the program.

- **Using the Context Menu:** Remove a Chart by right-clicking on the chart to be removed so that the Chart Operations appears. If a Context appears for a different mode, for Routes or Markers or Zones for example, then move the mouse away from any Routes, Markers, or Zones, and right-click on an unoccupied portion of the Chart. From that menu, left-click on the Remove Chart button from the sub-menu, and the selected Chart will be removed.



- **Using NavManager:** NavManager also provides options for advanced Chart management allowing removal of any loaded charts. See the NavManager page for details about using NavManager to Manage Charts.

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Hiding Charts

The program allows for the hiding of charts from view during normal operation. Once a chart is hidden, it will no longer be quilted along with other charts in the Chart View.

- **Using NavManager:** In NavManager , select the chart to hide and click the Hide Selected button.

  NavManager also provides the Show Selected button for returning charts to view.

- **Using the Context Menu:** The Chart Context Menu also allows for the hiding of charts. Mouse over the Chart to be hidden and right-click. If a Context Menu appears for a different mode, e.g., for Routes, Markers, or Zones, then move the mouse away from any routes, markers, or zones, and right-click on an unoccupied

portion of the Chart. From that menu, left-click on the Hide Chart button. To restore the chart to view, mouse over the area where the Chart would be located and right-click. Select List Charts Under Cursor and check the box to the left of the chart to be restored from the displayed list.

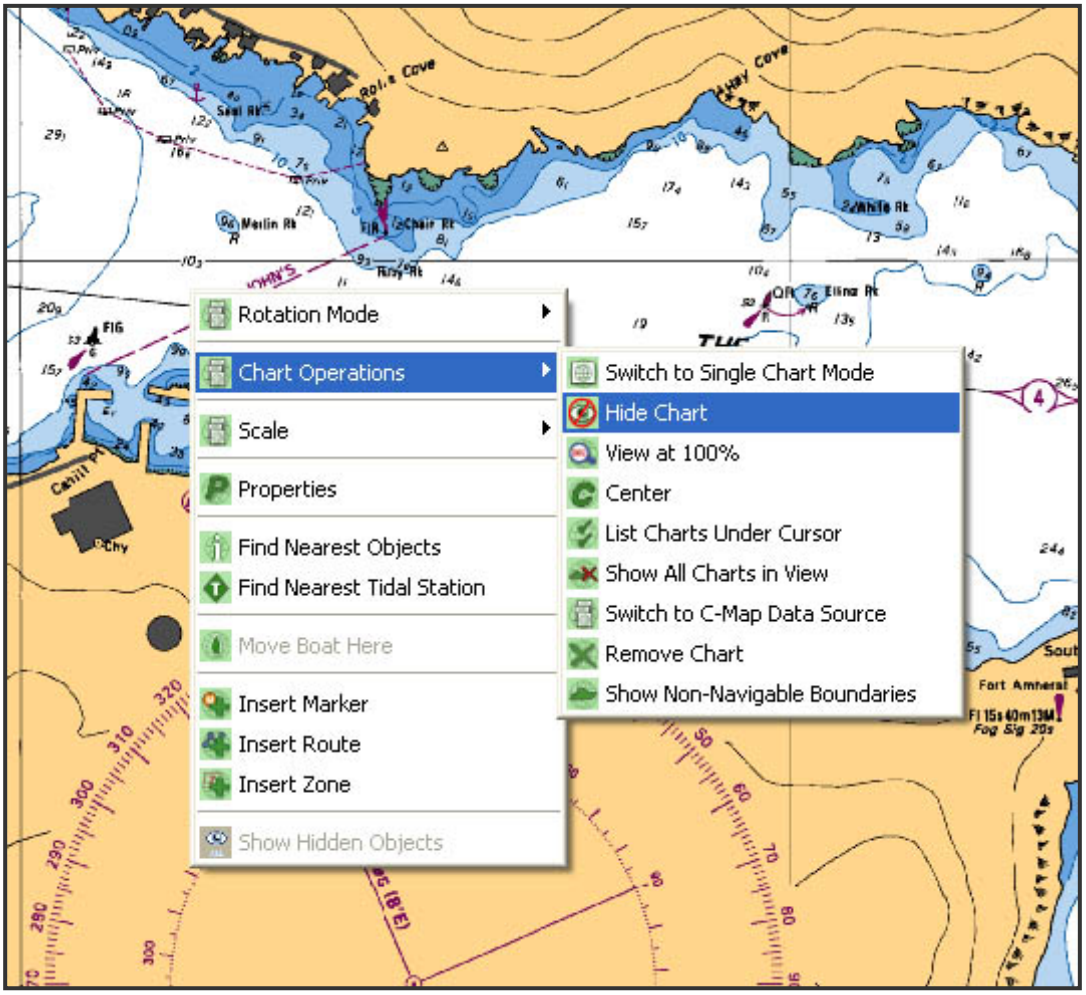
- 

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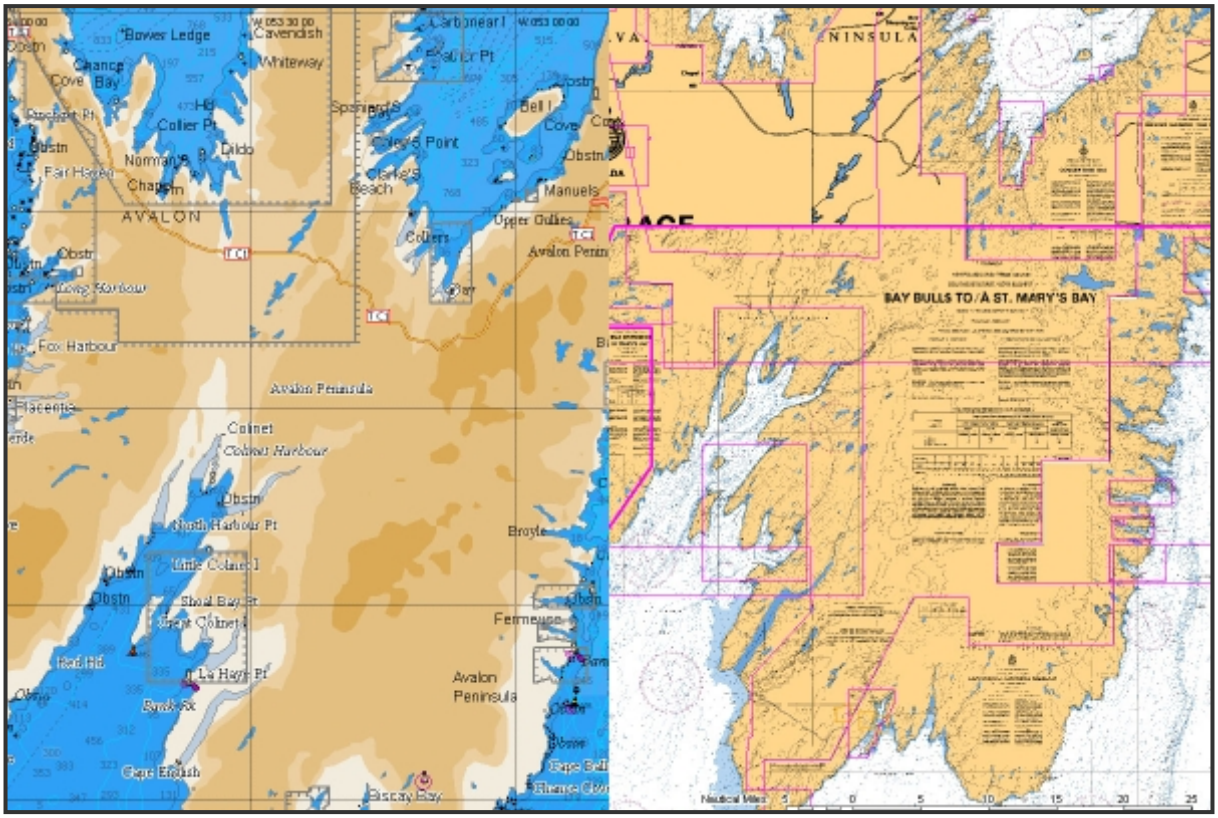
Chart Quilting

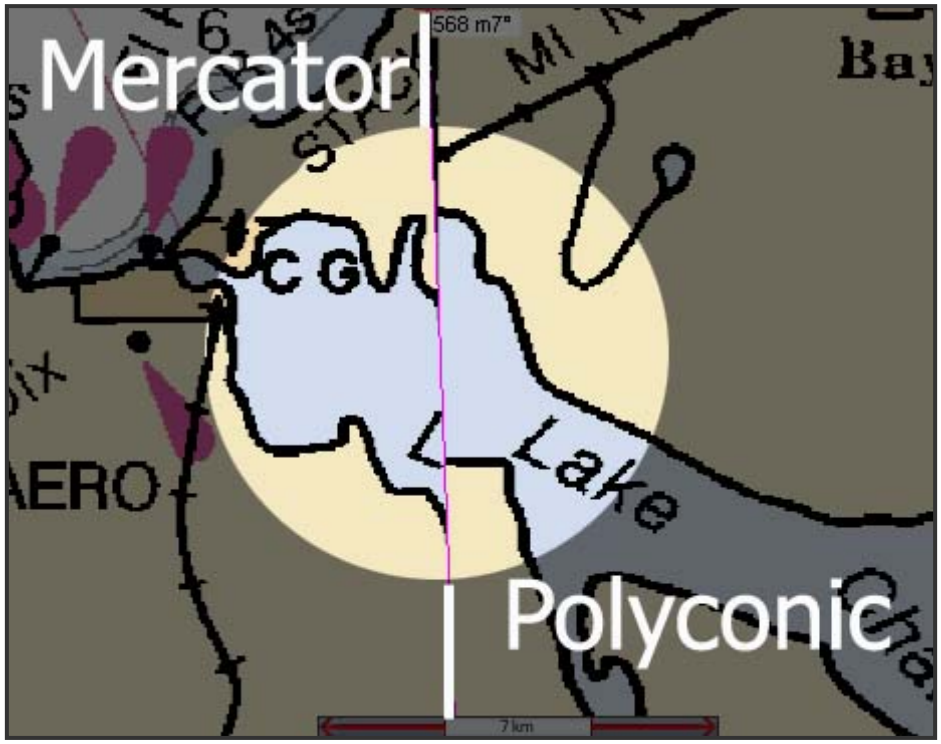
By default, the program provides a feature called Quilting whereby multiple charts covering a geographic area can be overlaid to create a mosaic of charts. Chart Quilting is done to seamlessly cover a geographic region and to remove the need for manually switching between individual charts.

The image below shows Chart Quilting for C-Map charts on the left-hand side. The right-hand side shows Chart Quilting for charts other than C-Map. Individual charts are automatically placed on the Main Chart View. Each chart can be viewed by Panning and Zooming over a selected area.

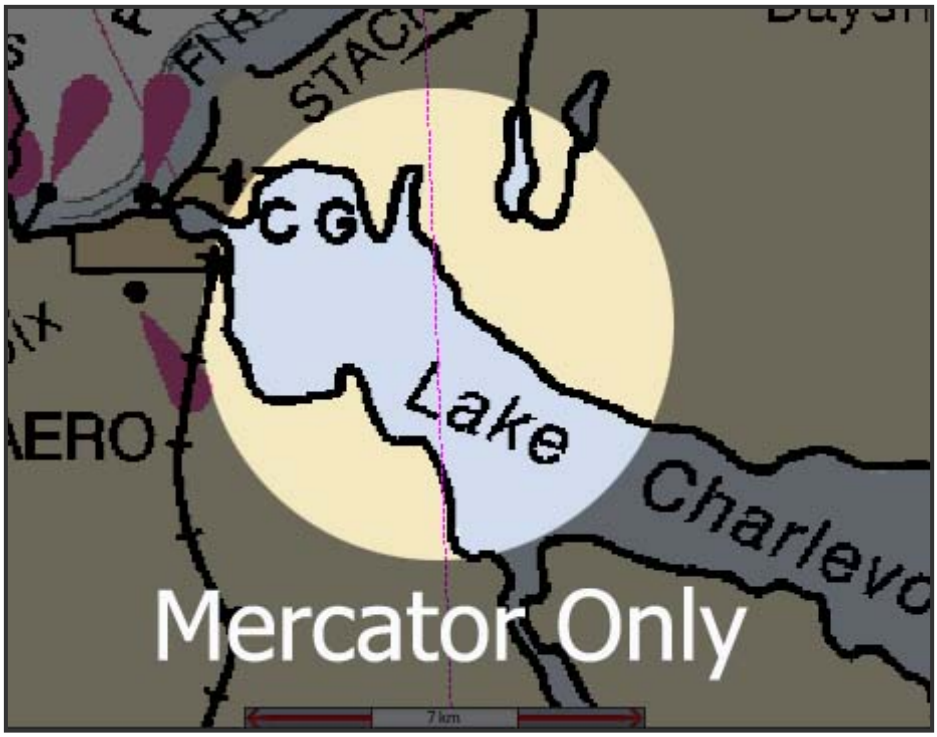


Quilting does have limitations and the program automatically accounts for some of these limitations, which may be caused by the very nature of chart projections. A projection is a way of representing a curved surface of the earth onto a flat chart. Many projections exist including; Mercator, Polyconic and the Universal Transverse Mercator (UTM). When Quilting, every chart must be shown so that geographic features are aligned between charts. Projection types and parameters will cause varying degrees of misalignment between charts that comprise the mosaic. Proper alignment of the charts should be verified. The option to remove any charts from the mosaic also exists.

In the mosaic, charts that cover a small geographic area will typically remain acceptable for viewing, but charts covering larger areas may not be acceptable, since they may exhibit greater misalignment. The program, therefore, will not display misaligned charts, but rather will display only the dashed outline of the chart. This is done to prevent the display of misaligned charts due to the quilting. These charts can be viewed in Single chart mode (in its native projection). Single chart mode offers the most accurate viewing of any chart.



Example of overlapping two large scale charts of different projection types that are unacceptable for viewing in this case. (Shown for illustration only. Such strong misalignments will not occur in the program.)



The same scenario as shown above, except with the program automatically not displaying the misaligned chart (a Polyconic chart in this example).

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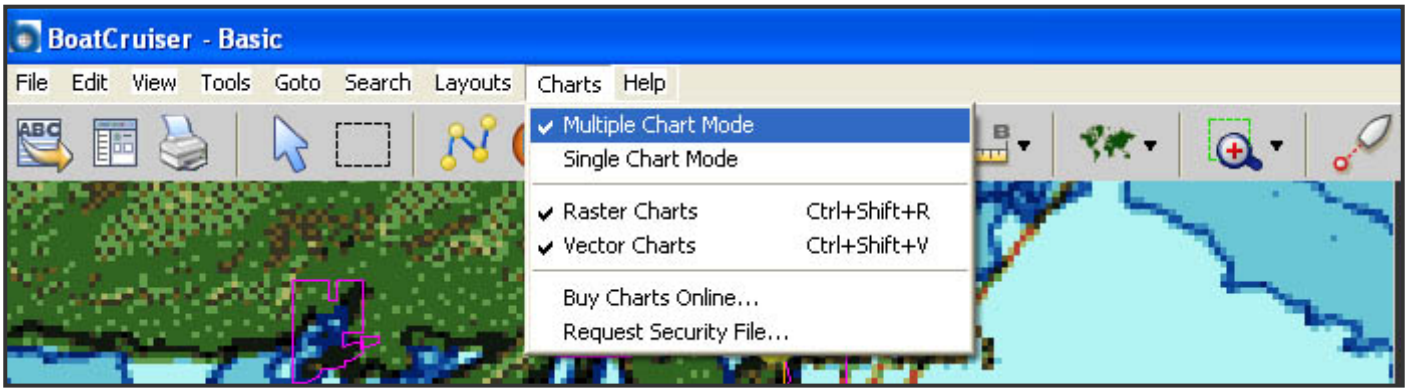
Switching Between Single Chart and Multiple Chart Mode

Switch between Single Chart and Multiple Chart mode by selecting either Single Chart Mode or Multiple Chart Mode from the Charts menu in the Main Menu. A check mark indicates the Chart Mode presently in use.



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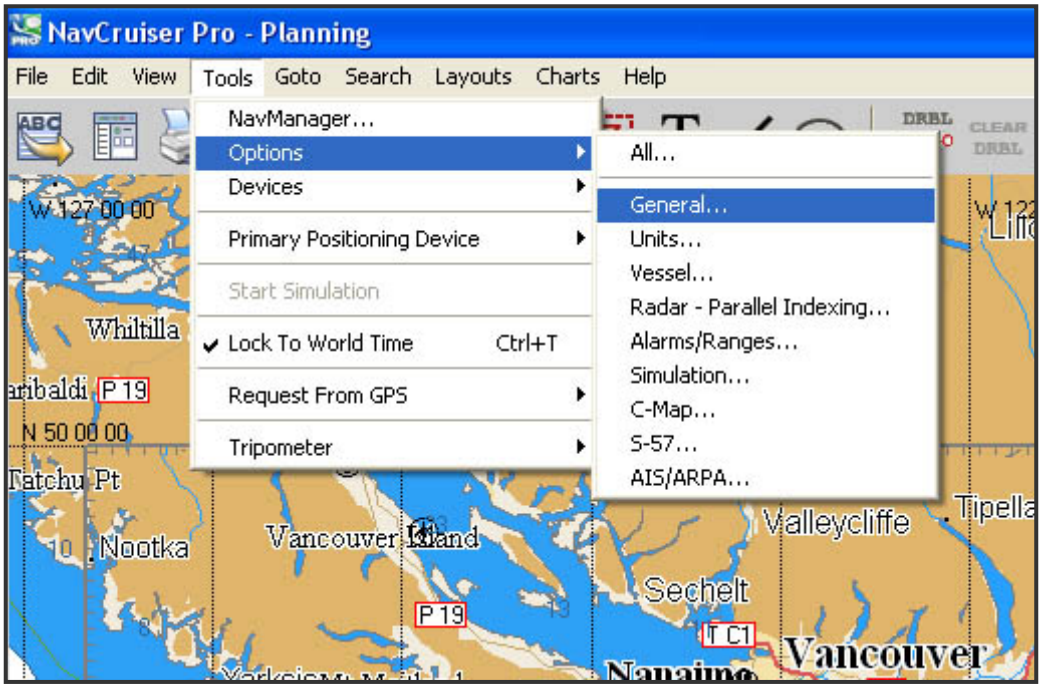
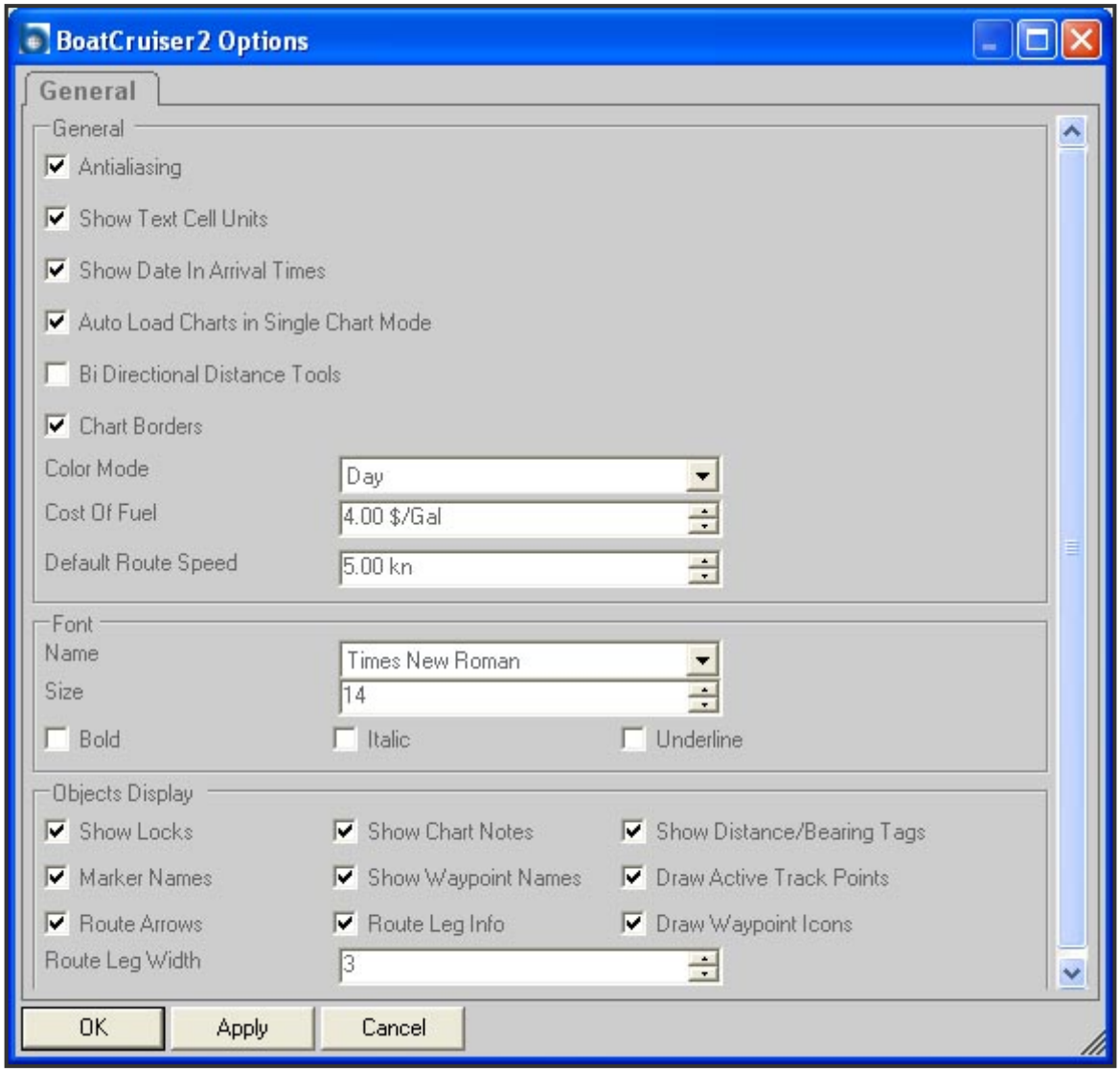
Changing Chart Colour Mode

Some Charts have different colour modes which make them easier to view in different light conditions. For example, a Chart with a lot of white would be detrimental to night-vision when navigating after dark and may offer a less light-intensive colour mode. Not all Charts support this feature, however, and the colour modes differ from Chart to Chart. The Chart colour mode can be changed by selecting a colour mode from the General Options tab (Tools->Options->General... in the Main Menu).



The current colour mode is indicated in the colour General section.



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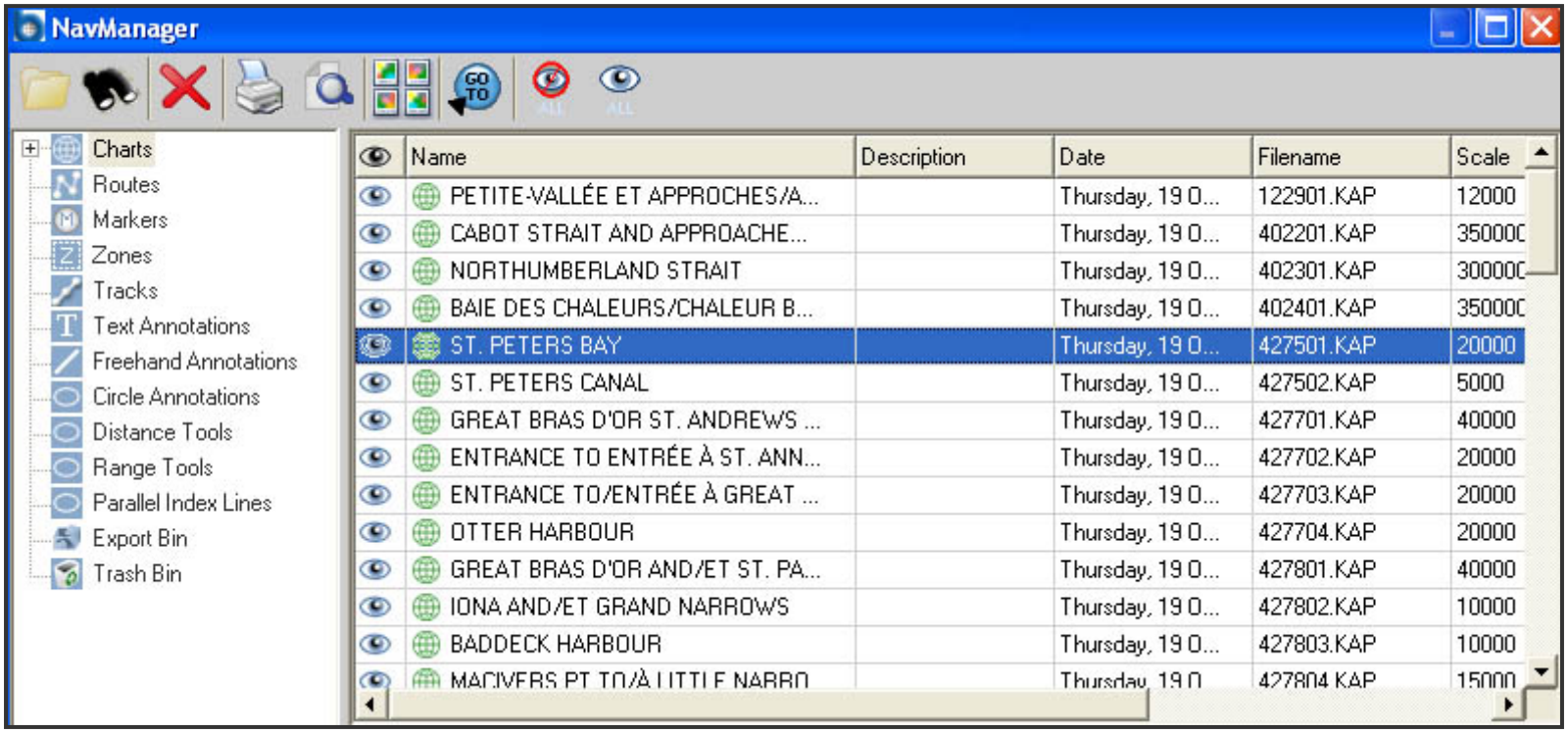
Viewing Imported Chart List

All Charts imported into the program can be viewed in NavManager . To view a list of imported charts, click on Charts in NavManager. A list of charts imported into the program will appear, as shown below.


NavManager
Charts
Routes
Markers
Zones
Tracks
Text Annotations
Freehand Annotations
Circle Annotations
Distance Tools
Range Tools
Parallel Index Lines
Export Bin
Trash Bin
Name
Description
Date
Filename
Scale
PETITE-VALLÉE ET APPROCHES/A... Thursday, 19 O... 122901.KAP 12000
CABOT STRAIT AND APPROACHE... Thursday, 19 O... 402201.KAP 350000
NORTHUMBERLAND STRAIT Thursday, 19 O... 402301.KAP 300000
BAIE DES CHALEURS/CHALEUR B... Thursday, 19 O... 402401.KAP 350000
ST. PETERS BAY Thursday, 19 O... 427501.KAP 20000
ST. PETERS CANAL Thursday, 19 O... 427502.KAP 5000
GREAT BRAS D'OR ST. ANDREWS ... Thursday, 19 O... 427701.KAP 40000
ENTRANCE TO ENTRÉE À ST. ANN... Thursday, 19 O... 427702.KAP 20000
ENTRANCE TO/ENTRÉE À GREAT ... Thursday, 19 O... 427703.KAP 20000
OTTER HARBOUR Thursday, 19 O... 427704.KAP 20000
GREAT BRAS D'OR AND/ET ST. PA... Thursday, 19 O... 427801.KAP 40000
IONA AND/ET GRAND NARROWS Thursday, 19 O... 427802.KAP 10000
BADDECK HARBOUR Thursday, 19 O... 427803.KAP 10000

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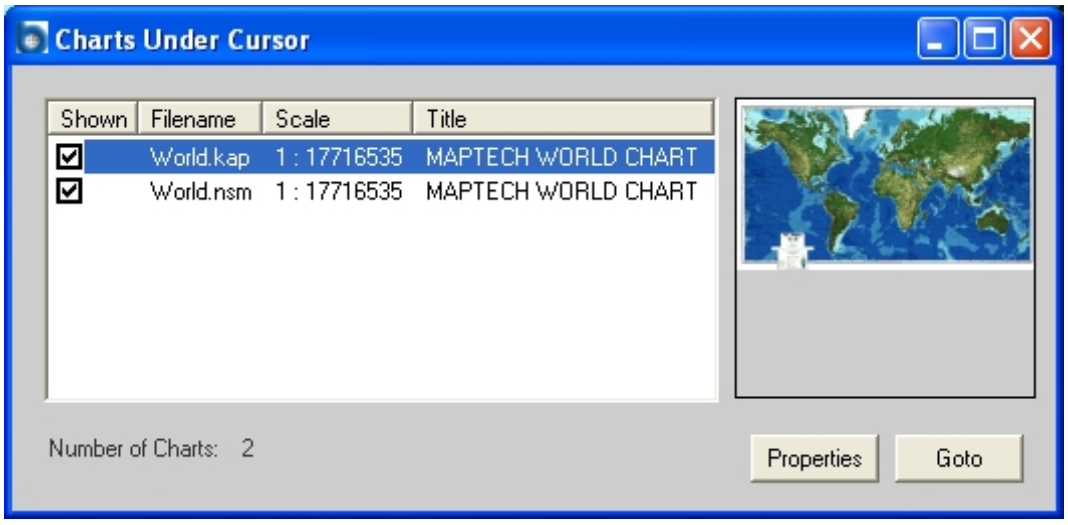
List Charts Quilted Under Cursor

In the default multiple-chart mode, there may be other charts underneath the one currently in view. To see which other loaded charts may be underneath, right-click on the chart to bring up the Chart Context Menu, right-click on Chart Operations and left-click on "List Charts" in the resulting submenu. This will cause a dialog box to appear, such as the one shown below.



The charts are listed in order of their layering, with the first listed chart being the chart on top. To view a chart at another layer, select it and click the Goto button in that dialog box.

Lower- and higher-detail charts are also visible when zooming into and out of the current chart. When another chart can provide better detail than the currently visible chart, it will be displayed.

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Panning

There are several ways to move through Charts:

- When the mouse pointer appears on screen as an arrow, click and hold down the left mouse button while moving the mouse. If the mouse pointer is not an arrow , press the Selector Arrow button in the main toolbar.
- When mousing near the edges of the chart window the cursor will change to an arrow pointing along a compass direction. Left-clicking will scroll across the Chart in that direction.
- Using the keyboard arrow keys also pans the chart.

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Zooming

To Zoom In and Zoom Out,

- Use the Zoom-In and Zoom-Out buttons in the Main Toolbar
- Use the the + and - keys on the keyboard
- Use the mouse scroll wheel to Zoom in and out.

Additionally, the Zoom Box tool can zoom to a selected area. Click on the Zoom Box icon located in the main toolbar, go to the Chart, left-click and drag the mouse to draw a rectangle in the main Chart view. A coloured rectangle shows the area selected. When the left mouse button is released, the Chart Zooms to the portion of the Chart covered by the coloured rectangle.

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Tilting

Some charts have the ability to be viewed from an angle. When coupled with a high-detail chart and the Course Up option, this provides a useful highway view of the present course. The Main Toolbar contains 3 buttons for tilting the viewing angle of the Chart View.

- Tilt Screen Up - Raises the angle of the viewing "eye" relative to the chart
- Reset Screen Tilt - Sets the viewing angle back to 90 degrees to the chart
- Tilt Screen Down - Lowers the angle of the viewing "eye" relative to the chart

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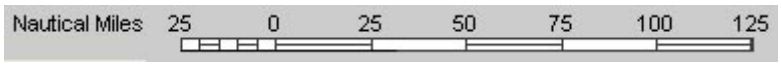
Main Chart View Scale

On a chart, Scale indicates a graduated range of values forming a standard system for measuring distances on the chart. The Scale indicates the proportion between the representation and what it represents, such as in the legend "One inch equals twenty miles" on a map.

This tool is located at the bottom of the Main Chart View to show the scale of each chart. It appears like this on the bottom of the chart:



The distance to the right or left of the "0" on the Chart Scale is shown in increments based on the Scale unit selected and the actual Scale of the chart. The Scale automatically changes when zoomed in or zoomed out.

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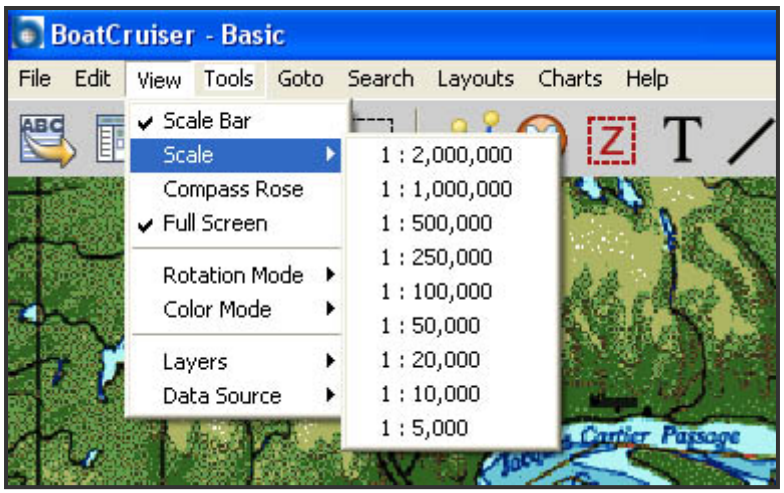
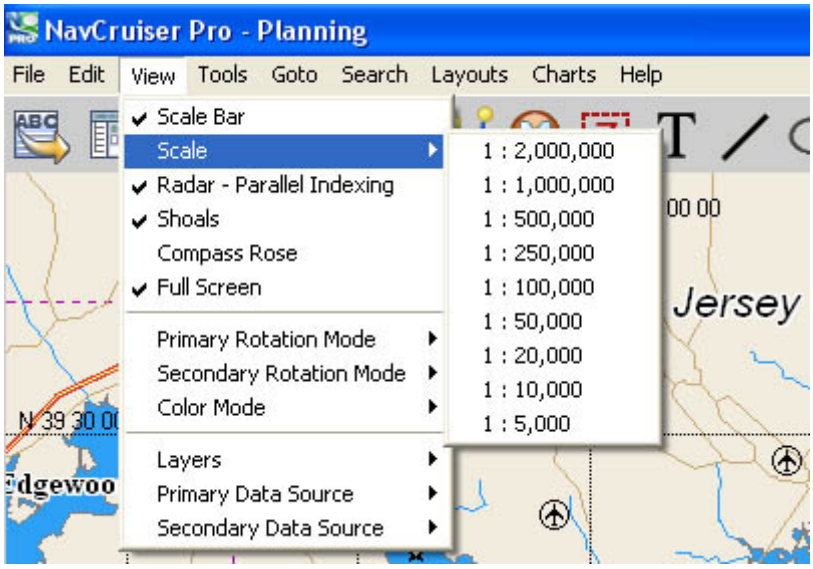
Adding or Removing Scale Bar

To add or remove the Chart Scale, click on View on the main menu and left-click Scale Bar. If the tick mark appears before Scale Bar, the Scale shows on the Chart. If the tick mark is removed, the Scale will not show on the Chart.





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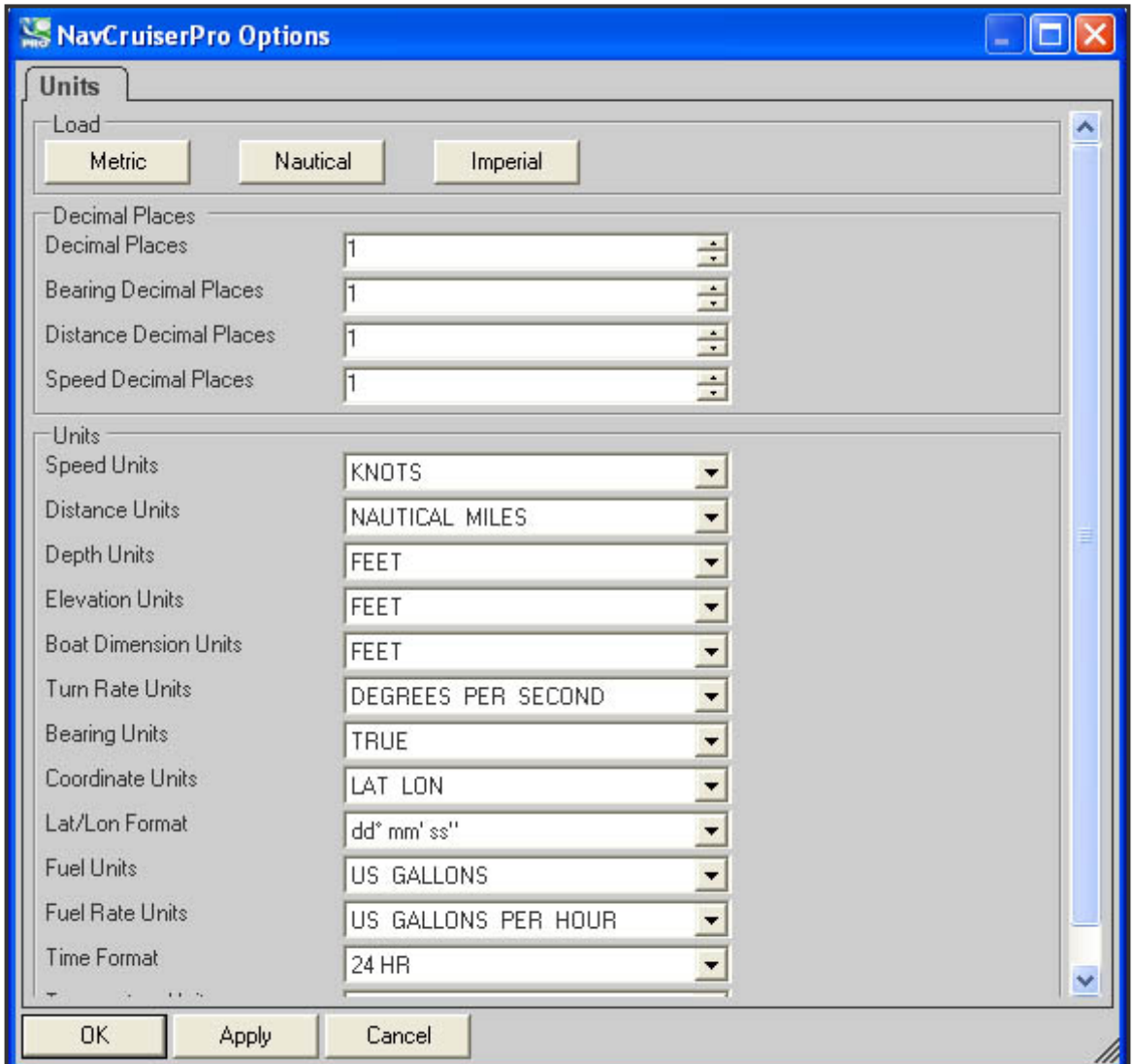
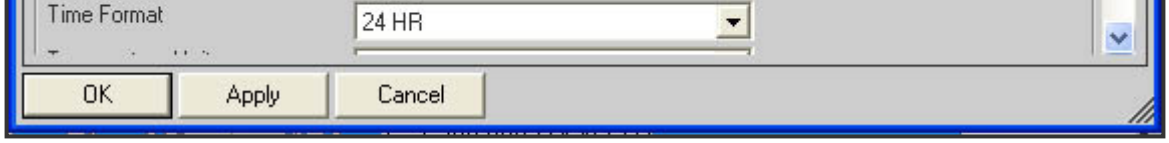
Changing Scale Unit System

To switch between Metric, Imperial or Nautical units on the Scale Bar,click on Tools on the main menu. Choose Options, then click on Unit to choose the unit of measurement. Click Apply/OK and the Scale Bar at the bottom of the chart changes accordingly, to show the Scale in kilometres, miles or nautical miles.





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Importing & Exporting

- About
- Importing
- Exporting

About

The program allows the Importing and Exporting of navigational objects and charts. Navigational objects can be Imported / Exported to or from a file residing on the computer. The default format used by the program are files with a ".nso" (Object Files) or ".nsm" (Chart Files) extension. These files can easily be Imported and Exported through the application.

In addition to these file types, the following formats are also supported:

For Importing:

Navigational Objects:

- Maptech Route (*.rxf)
- Maptech Markers (*.mxf)
- Maptech Route (routes32.txt)
- Maptech Markers (marks32.txt)
- Memory Map CSV (*.csv)
- Geo Locations (*.geo)
- Marina Locations (*.mff)
- Photo Locations (*.oph)
- Tide & Current Stations (*.D1)

Charts:

- BSB (*.kap;*.cap)
- SoftChart(*.geo)
- GeoTiff (*.tif)
- Maptech (*.sph;*.aer;*.024;*.100)
- S57 Vector (*.000)

For Exporting:

- The program CSV. For example: BoatCruiser CSV (*.csv)

Importing

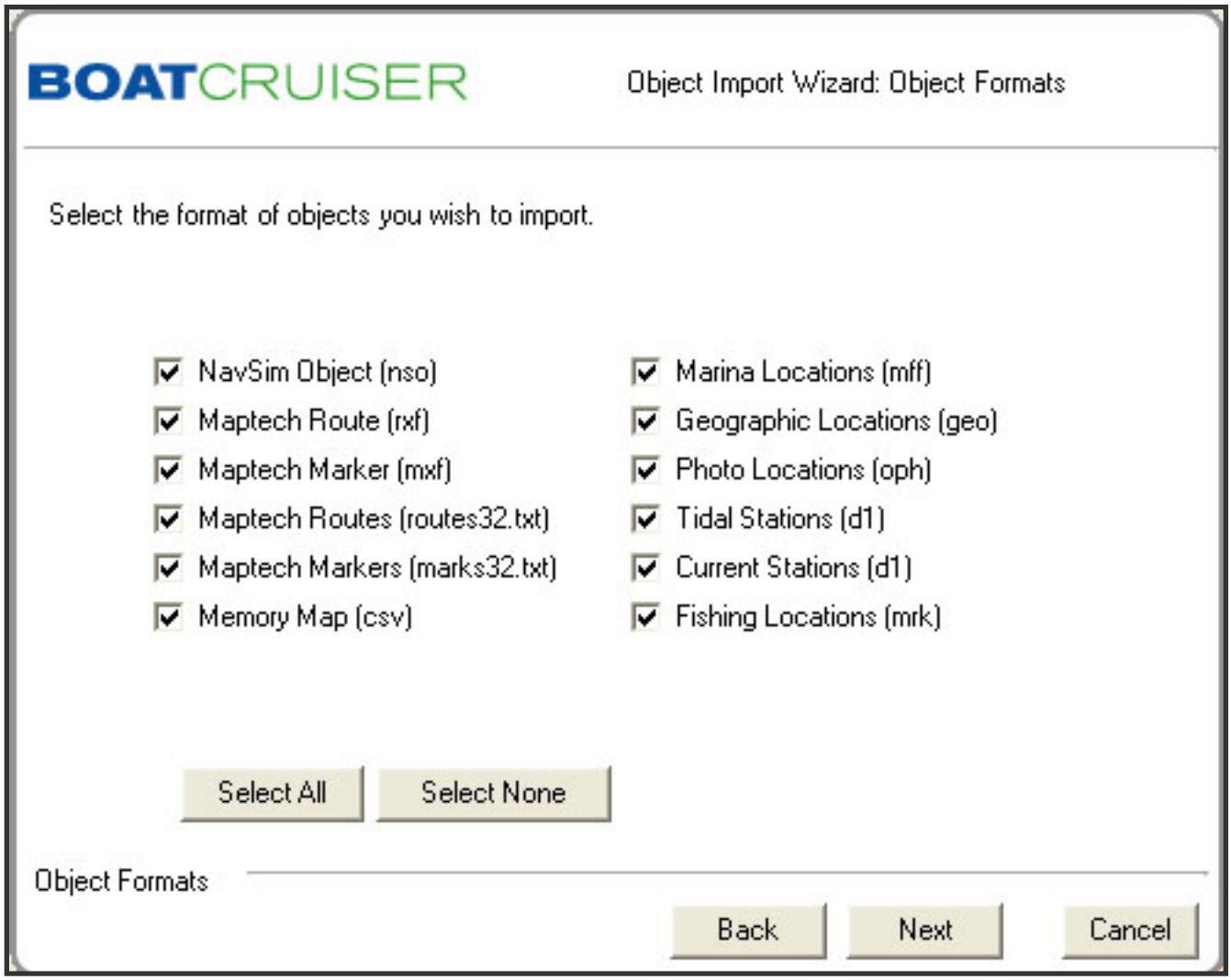
There are two main ways to import:

- From the Main Menu, select Import Charts or Import Objects from the File tab.
- Alternatively, from the QuickStart Menu , there are Wizards that will help you import Charts or Objects.

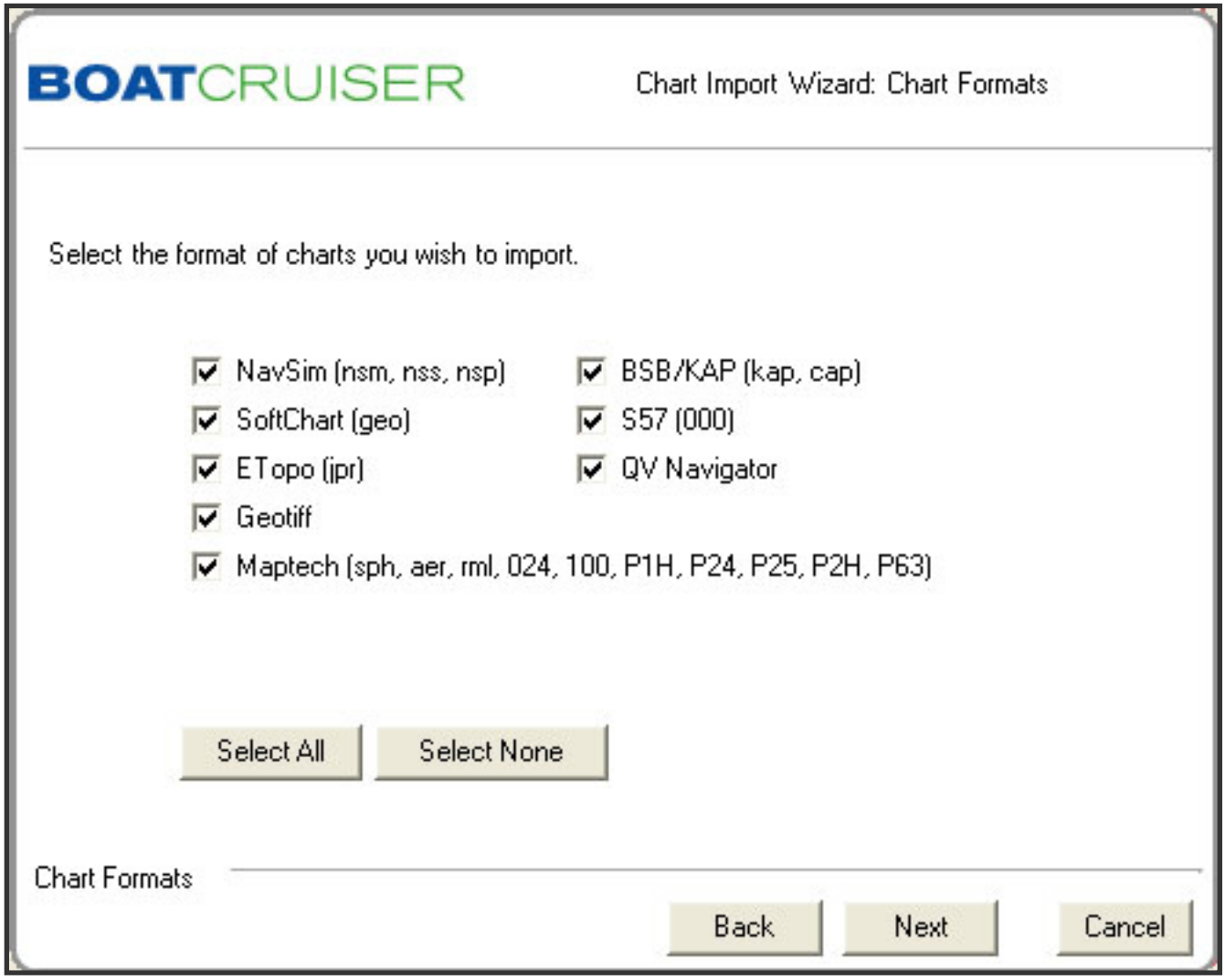
Please note that Layouts may also be Imported. Under the Manage tab in the Layout Main Menu, click the Import option and select the location to Import the Charts.

The Wizard will act as a guide in Importing either Charts or Objects. Simply follow the instructions and choose the items to Import.

The following types of Objects can be Imported to the program (Example, BoatCruiser):



The following types of Charts can be Imported to the program:



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Exporting

This program has the capability to Export Objects to file or to a GPS unit. There are several ways to Export objects:

- In NavManager, select the navigational Object to be exported and then click the Export to File button

which is located in NavManager's toolbar.

- Alternatively, to Export multiple items at once select the Export Bin button

, from NavManager. Once all the items are in the Export Bin, click the Export Bin to Export the entire bin.

- Context Menus for Objects may contain the option to Export to file, GPS or to a C-CARD.

- Layouts may also be Exported. Under the Manage tab in the Layout Main Menu, select the Layout(s) to be exported and click Export to choose a file.

Note that Charts can not be Exported from the program.

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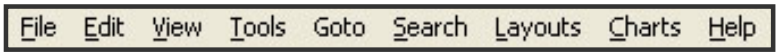
Main Menu

- About Main Menu
- Edit
- Tools
- Search
- Charts
- File
- View
- Goto
- Layouts
- Help

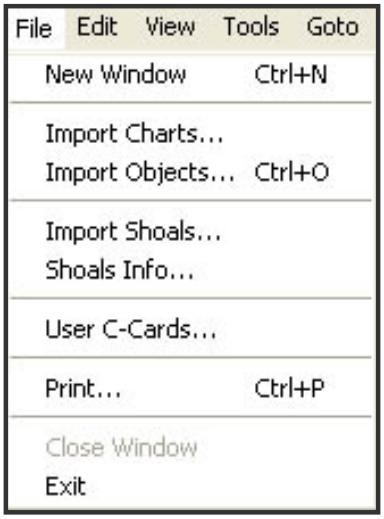
About Main Menu



The Main Menu is located on the Main Screen Layout.

The Main Menu of the program is a good starting point to set general program settings, or to access a particular function such as NavManager. Below is a description of all functions associated with the Main Menu.

File



The File Menu gives the following options:

- **Import Charts**: Opens the Chart Import Wizard. Simply follow the instructions of the Wizard to

Import Charts.

- **Import Objects**: Opens the Object Import Wizard. Simply follow the instructions of the Wizard to Import Objects.
- **Import Shoals: (Note: NC PRO only)** Opens file browser. Choose the file for Shoals and import.
- **Shoals Info: (Note: NC PRO only)** Opens a dialog box for providing information on your last Shoals update.
- **User C-Cards**: This is an area to manage C-Map C-CARDS.
- **Print**: Opens a dialog box for Printing the area that is being viewed.
- **Exit**: Closes the program. All information is automatically saved.

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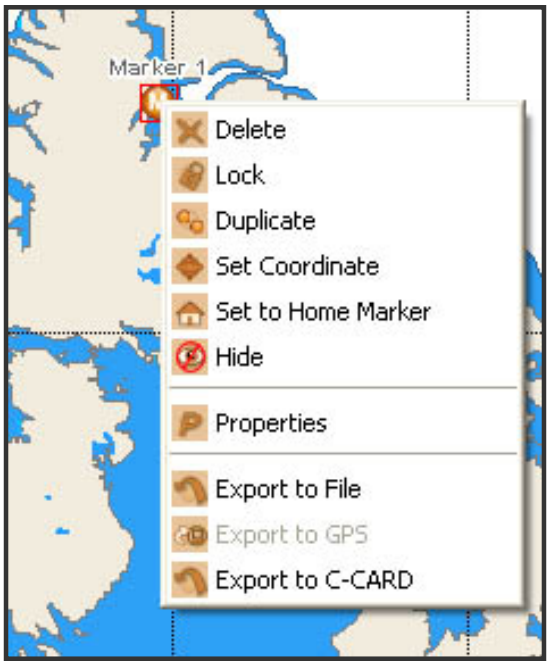
Edit

(Note: An attachment or Chart Object must be selected to enable the Edit Menu. Double-click attachment or Object to select.) The Edit Menu allows changes to be made and the viewing of Properties or Export Chart Properties in the following ways:

- **Properties:** Displays properties and attachments of a selected Chart or Chart Object.
- **Delete:** Deletes the selected Object.
- **Hide:** Hides the selected Object. This object can be restored in the NavManager or by clicking on Show Hidden Objects in the Chart Context Menu.
- **Lock:** Locks the selected Object.
- **Unlock:** Unlocks the selected Object.
- **Export:** Send the selected Object to a File or to a GPS unit.
- **Select All:** Selects all Objects on the current screen. You may also Select All by using keyboard shortcut: Ctrl+A.
- **Select None:** Deselects all Objects on the current screen.
- **Show Hidden Objects:** Displays all hidden Objects in the current screen.

Editing can also be done by selecting the Object and right-clicking. A menu pops up and presents editing options:



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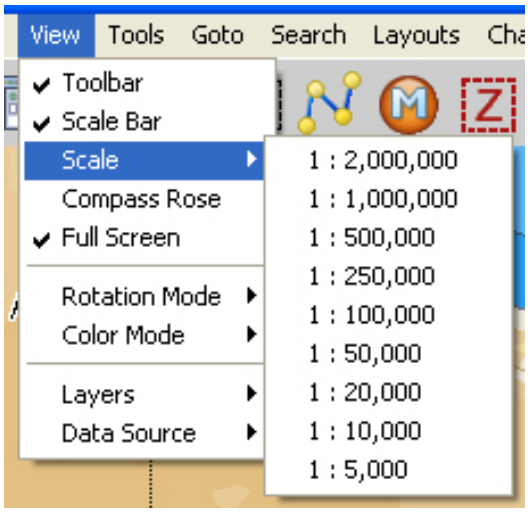
View

The View Menu gives the following options with respect to the program interface:

- **Toolbar**: Enables or disables the Toolbar.
- **Scale Bar**: Enables or disables the Chart Scale.
- **Scale**: Allows selection of Chart Scale.

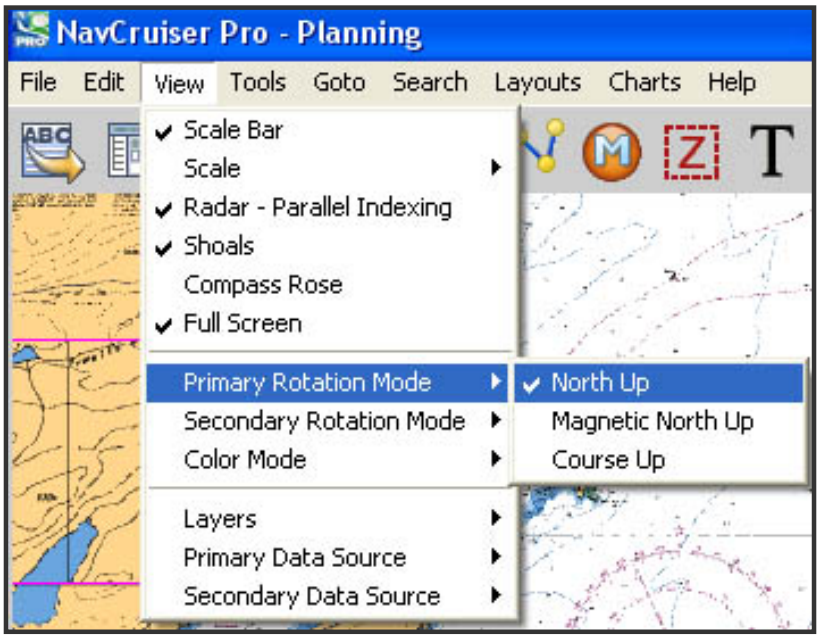


- **Radar - Parallel Indexing (note: NC PRO only)**: Enables or disables Radar - Parallel Indexing.

- **Shoals (note: NC PRO only)**: Enables or disables Shoals.
- **Full Screen:**: Enables or disables Full Screen view.
- **Compass Rose**: Enables or disables the Compass Rose.

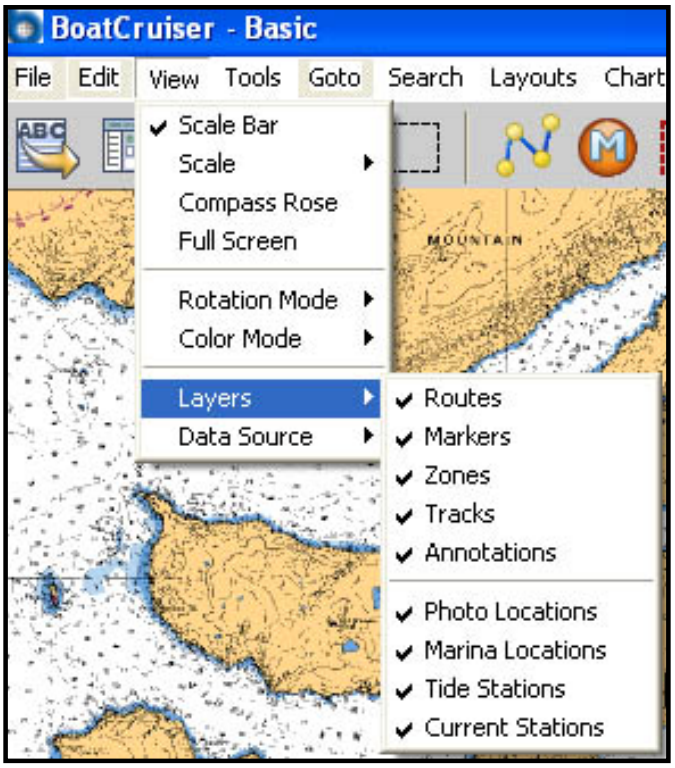
- **Layers**: Enables or disables the display of the various viewable layers of the program. Note that this is not the same concept as hiding an object.

- **Rotation**: Allows viewing of the Chart from different perspectives including North Up, Magnetic North Up and Course Up.



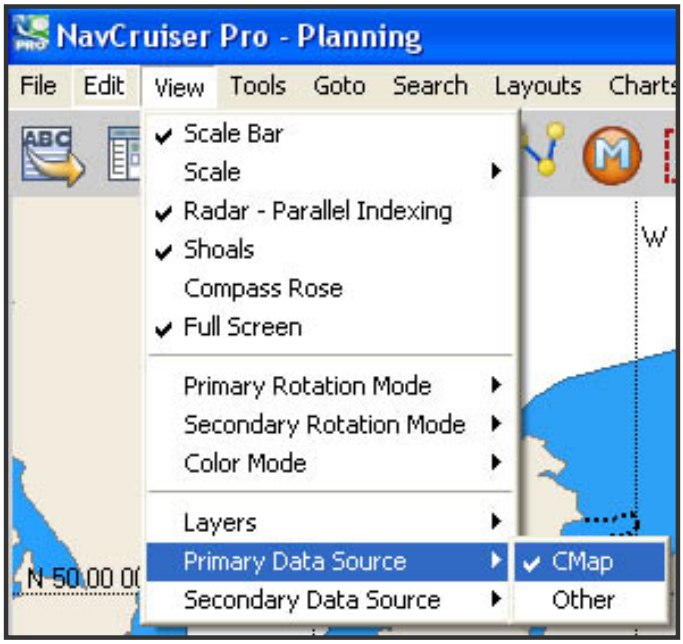
- **Primary Rotation Mode (note: NC PRO only):** Allows selection to view the Chart from different perspectives including North Up, Magnetic North Up and Course Up, as your primary view.
- **Secondary Rotation Mode (note: NC PRO only):** Allows selection to view the Chart from different perspectives including North Up, Magnetic North Up and Course Up, as your secondary view.

- **Layers**: Enables or disables the display of the various viewable layers of the program. Note that this is not the same concept as hiding an object.



- **Color Mode**: Allows selection of Day, Dusk or Night modes for optimum screen viewing.

- **Data Source**: Enables or disables selection of C-Map or Other Map Source and vice-versa. A check next to the option means that the selection is enabled.



- **Primary Data Source (note: NC PRO only)**: Enables or disables selection of C-Map or Other Map Source and vice-versa as your primary data source selection. A check next to the option means that the selection is enabled.
- **Secondary Data Source (note: NC PRO only)**: Enables or disables selection of C-Map or Other Map Source and vice-versa as your secondary data source selection. A check next to the option means that the selection is enabled.

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Tools

The Tools menu allows direct access to various key NavManager Pages. Below are the options that can be found in Tools:

- **NavManager**: Opens NavManager.
- **Options**: Opens the program Options. In this box the following features are managed; General Specifications; Colors, Units, Boat, Vessel **(note: NC PRO only)**; Radar - Parallel Indexing **(note: NC PRO only)**; C-Map and S-57 Charts; Alarms and Ranges;Boat options; AIS; ARPA and Simulation, Recording and Dead Reckoning.
- **Devices**: The Device Menu can be used to set up and launch any devices that are attached to the computer. These devices include ARPA, GPS, GYRO, AIS Receiver, Anemometer, AutoPilot and Depth Sounder. The Device Wizard can be used as a guide to set up devices.
- **Primary Positioning Device:** Allows the choice of GPS or AIS as the Primary Positioning Device.
- **Start Simulation**: Starts a simulated track on the selected route.
- **Stop Simulation**: Stops the simulation of a track.
- **Lock to World Time**: When in Time Machine Mode, click on Lock to World Time to go back to normal time.
- **Request From GPS**: Data may be transfered from your GPS unit by clicking on this tab. The submenu gives the option to import Markers, Routes or Tracks.
- **Tripometer:** Allows the choice to Reset Trip A or Reset Trip B.

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Goto

The Goto menu allows the focus of the Main Chart View to be changed. The following options are available:

- **Home**: If a Marker has been defined as a Home Marker the view will center at that Marker.
- **Coordinate**: Allows the view to be centred on a specific location. A location entry will be added to NavManager after searching.

- **World View**: The world view will be scaled and centred in the Main Chart View.

- **My Boat**: Takes you to the current location of the Boat. **My Vessel (note: NC PRO only)** Takes you to the current location of the Vessel.

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Search

The Search menu will look for Place Names, Chart Objects, Ports and Services and User Objects in a C-Map chart. **(Note: this function is not available on S-57 Charts.)**

- **Place Names:** Searches for geographic places by name. Once the search is complete, select a location to be taken to that place.

- **Chart Objects:**Lists the nearest Chart Objects. These Objects may inlcude airports, signal stations, rocks and navigation marks. To view details on these Objects or to be taken to their location, simply click and double-click on the specific Object.

- **Ports and Services:** Lists the nearest Ports and Services. To view details on these locations or to be taken to their location, simply click and double-click on the specific Object.

- **User Objects:** Lists the nearest Chart Objects inlcuding Charts, Routes, Markers, Zones and Annotations. To view details on these Objects or to be taken to their location, simply click and double click on the specific Object.

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Layouts

Layouts can be managed and created from this menu:

- **Create New:** A new Layout area will open. This Layout can be created by choosing the navigational tools that are appropriate for this Layout. (When a new Layout has been created, it will be added to the Layout menu with the chosen name assigned to it.)

- **Manage:** This area will delete, restore, import and export Layouts.

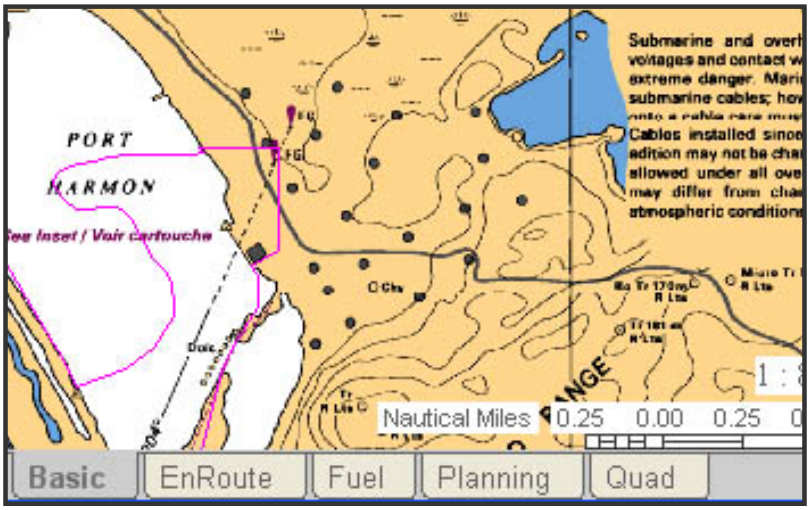
- **Basic:** Toggle this Layout to view it in the main view.
- **Fuel:** Toggle this Layout to view it in the main view.

- **EnRoute:** Toggle this Layout to view it in the main view.

- **Planning:** Toggle this Layout to view it in the main view.

- **Quad:** Toggle this Layout to view it in the main view.

Layouts are also accessible at the bottom left of the screen, as shown below:



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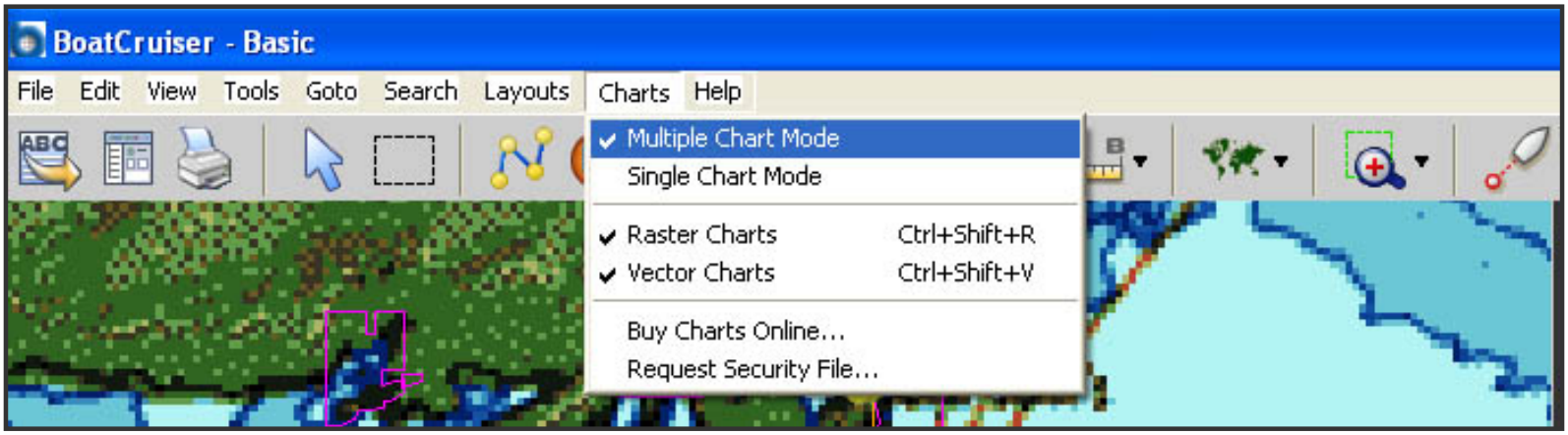
Charts



Many of the program's strengths come from the digital Charts that it has loaded. Within the Charts menu the following options are available:

- **Multiple Chart Mode**: Places the Main Chart View in Multiple Chart Mode. Not applicable in C-Map mode.
- **Single Chart Mode**: Places the Main Chart View in Single Chart Mode. Not applicable in C-Map mode.
- **Raster Charts**: To view Raster Charts, place a check mark besides it. Not applicable in C-Map mode.
- **Vector Charts**: To view Vector Charts, place a check mark besides it. Not applicable in C-Map mode.
- **Buy Charts Online**: Opens NavSim's Map Server on the internet, where digital charts can be

purchased and downloaded.

- **Request Security File**: Requests a new security file from NavSim's web site. Information is also provided on how to request a security file without an internet connection.

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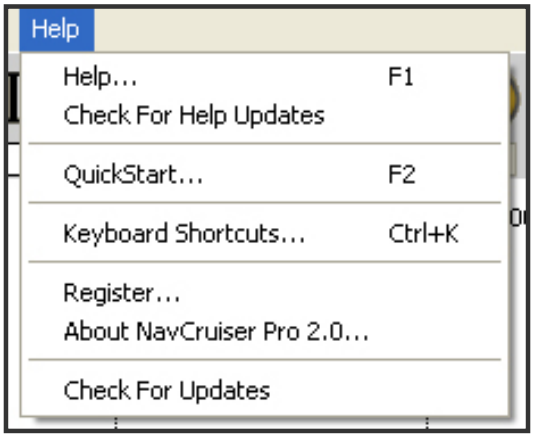
Help



The program's help has been written with readability and flow in mind. The following options are available within the Help Menu:

- **QuickStart:** Opens the QuickStart Menu containing Wizards and Tutorials.
- **Keyboard Shortcuts:** Lists Keyboard Shortcuts that may help you navigate the program with ease.
- **Register**: The program can be registered from this option.
- **About BoatCruiser 2.0 or About NavCruiser Pro 2.0**: Shows information regarding the version and development of the program.
- **Check for Updates:** Checks for any automatic updates that may be available to install. If any are currently available they can be downloaded when prompted. Note: another prompt may also request that you contact NavSim for an activation code after downloading the update.

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Layouts

- Using Layouts
- Creating a New Layout
- Viewing Layouts
- Default Layouts
- Managing Layouts
- Layout Display Panels

Using Layouts

NavSim's programs offers virtually an unlimited amount of combinations of Layouts. BoatCruiser (BC) and NavCruiser PRO (NC PRO) come equipped with five Layouts entitled Basic, EnRoute, Fuel, Planning and Quad. SailCruiser (SC) has an additional two layouts, Sail - On Water and Sail - Polars, and does not feature the Fuel Layout. These Layouts are described below, however a personalized Layout can be created including as many or as few information cells as desired.

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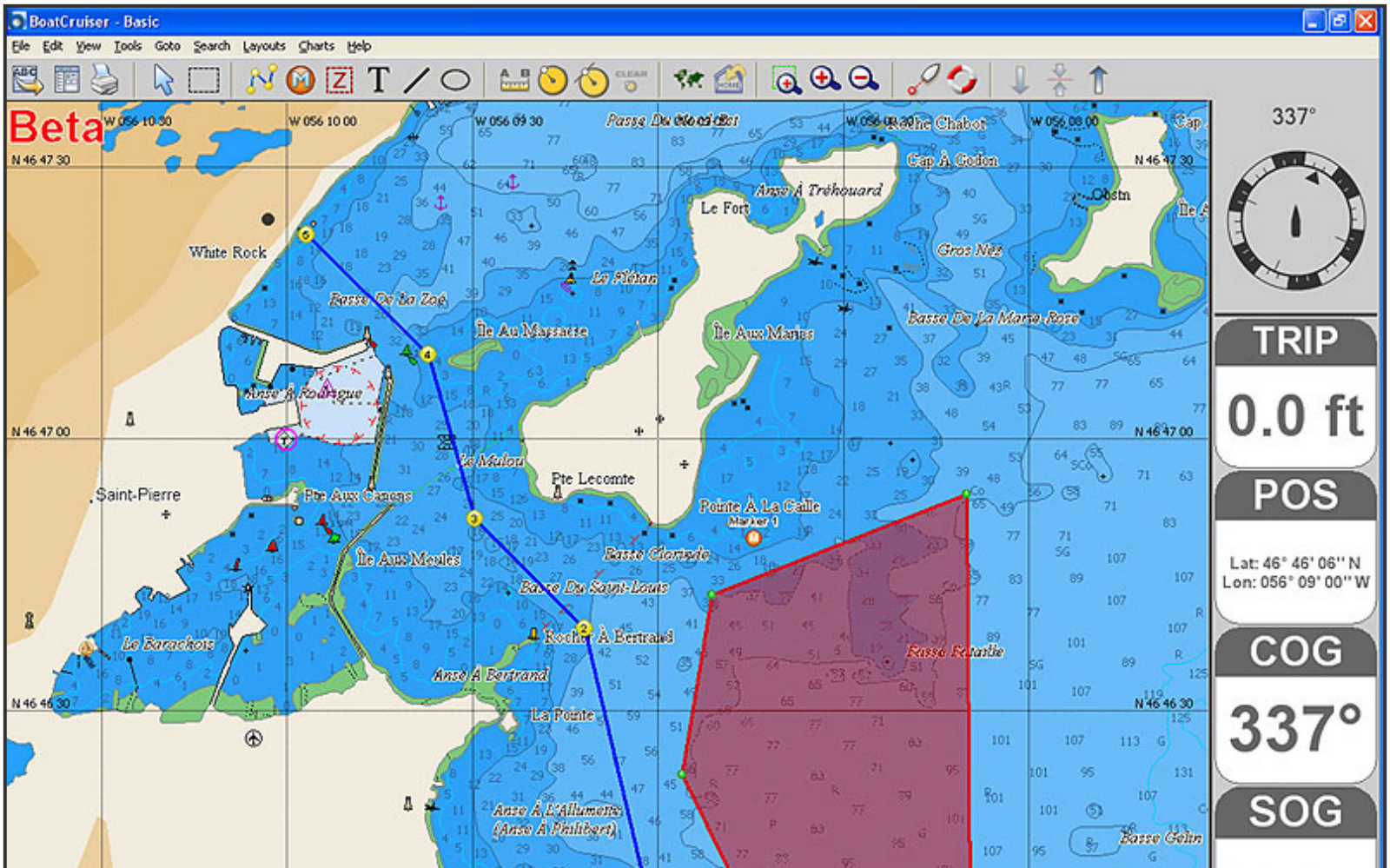
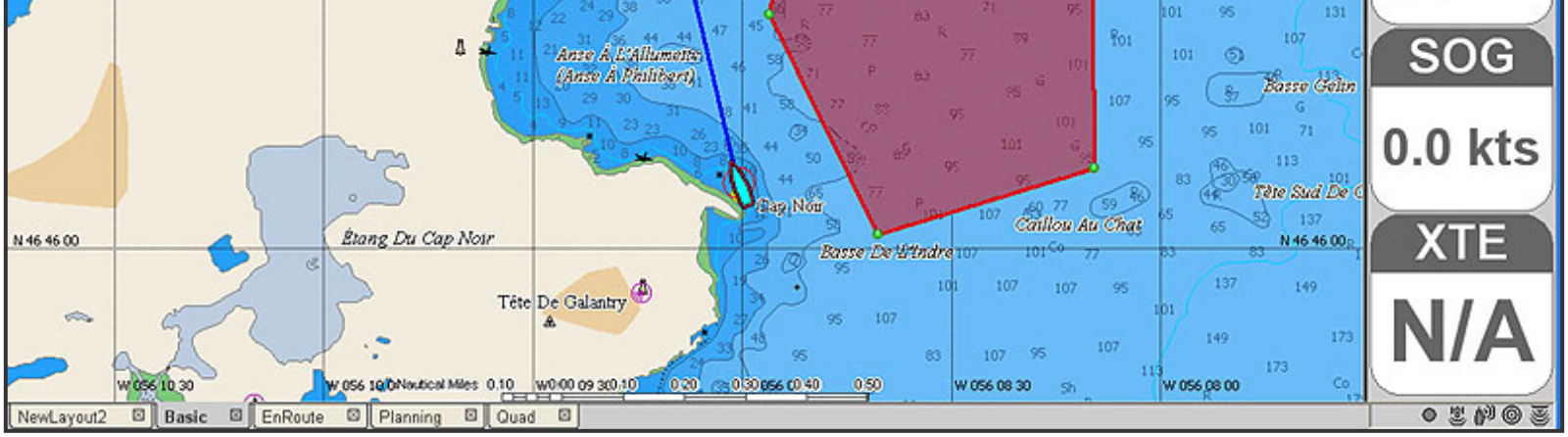
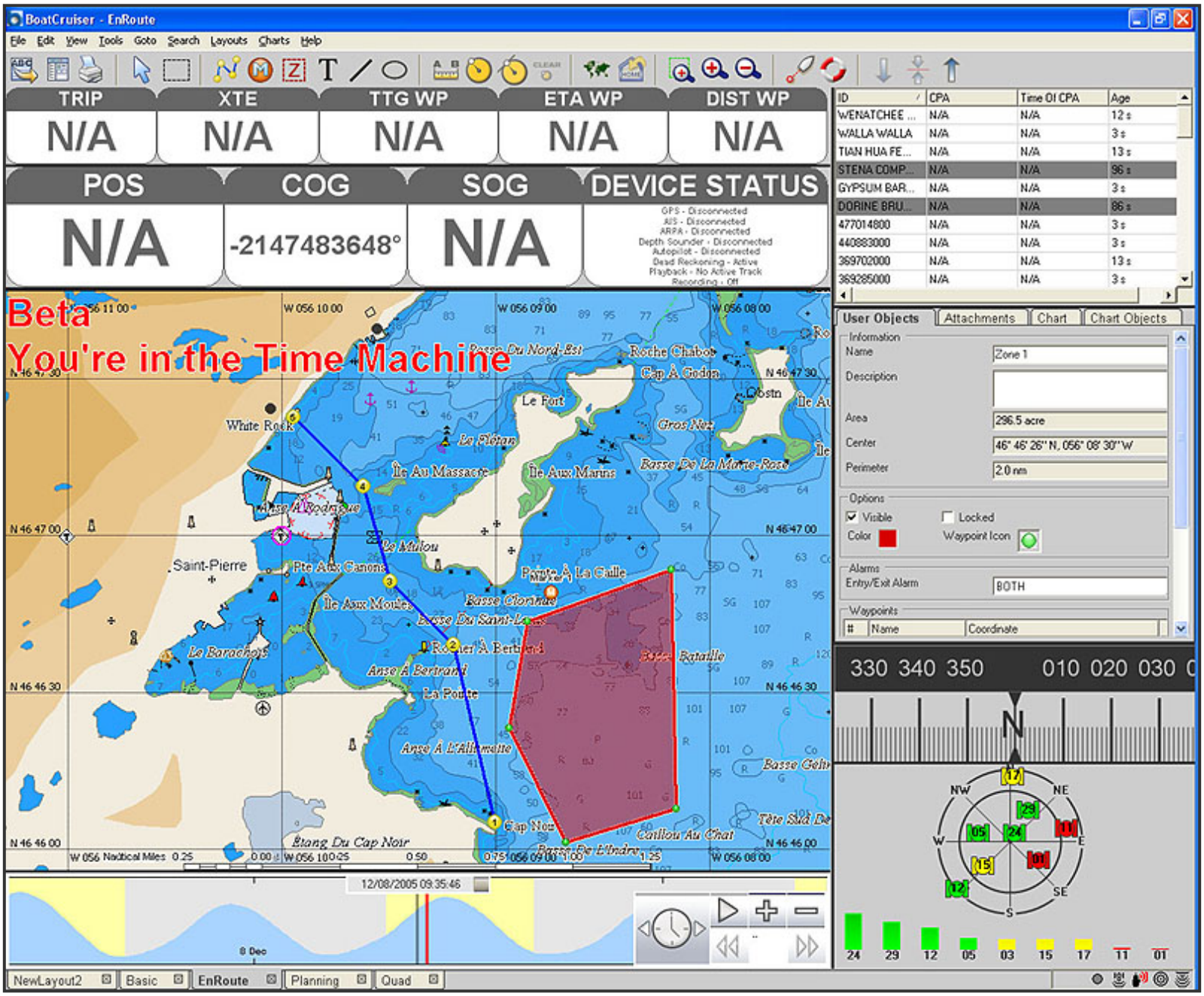
Default Layouts

- **Basic:** The Basic Layout is designed to give you a large viewing area with basic navigation information boxes on the right of the screen. The navigation tools included in the Basic Layout are Circular Compass, Tripometer, Position, Course Over Ground, Speed Over Ground and Cross Track Error.

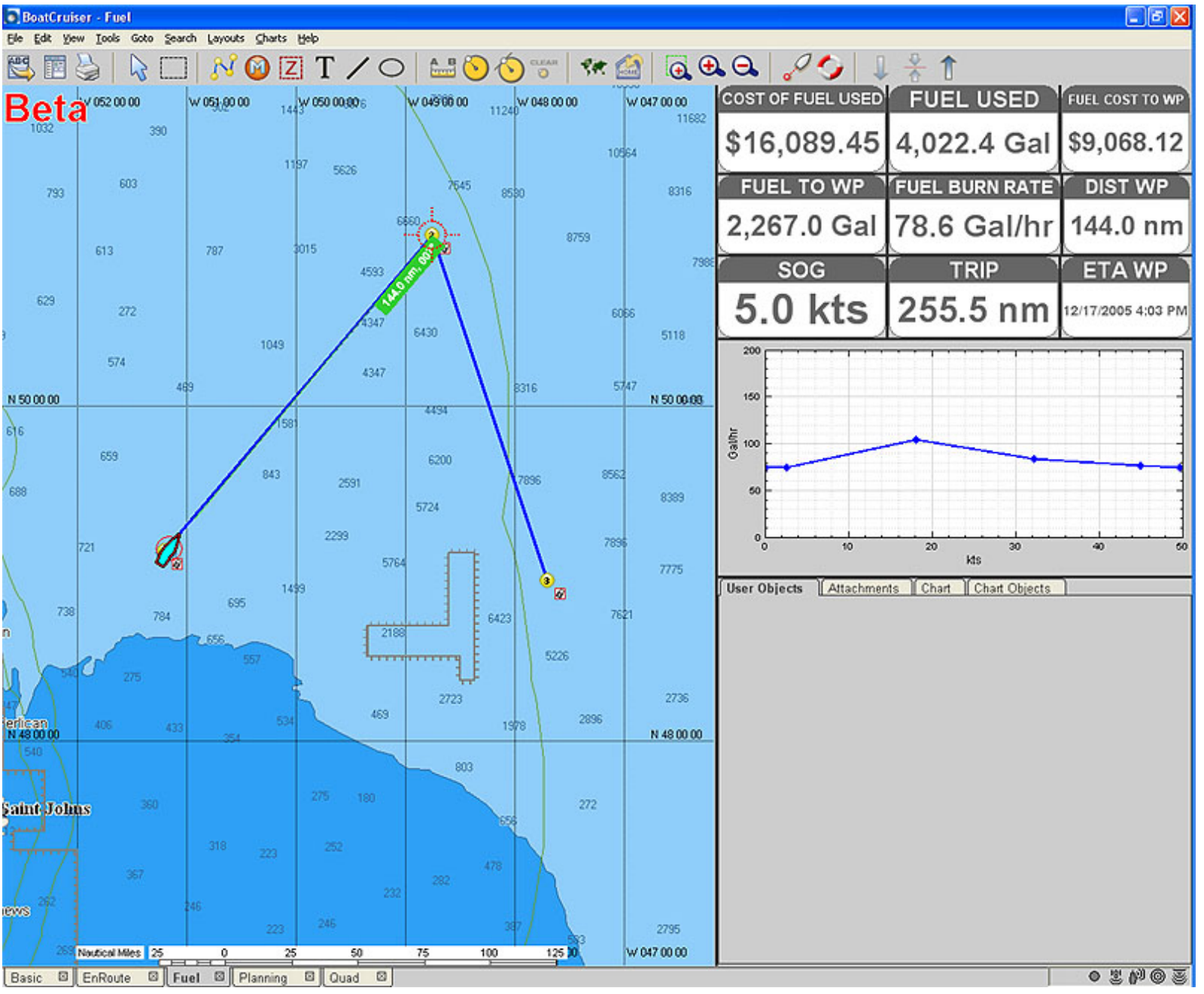




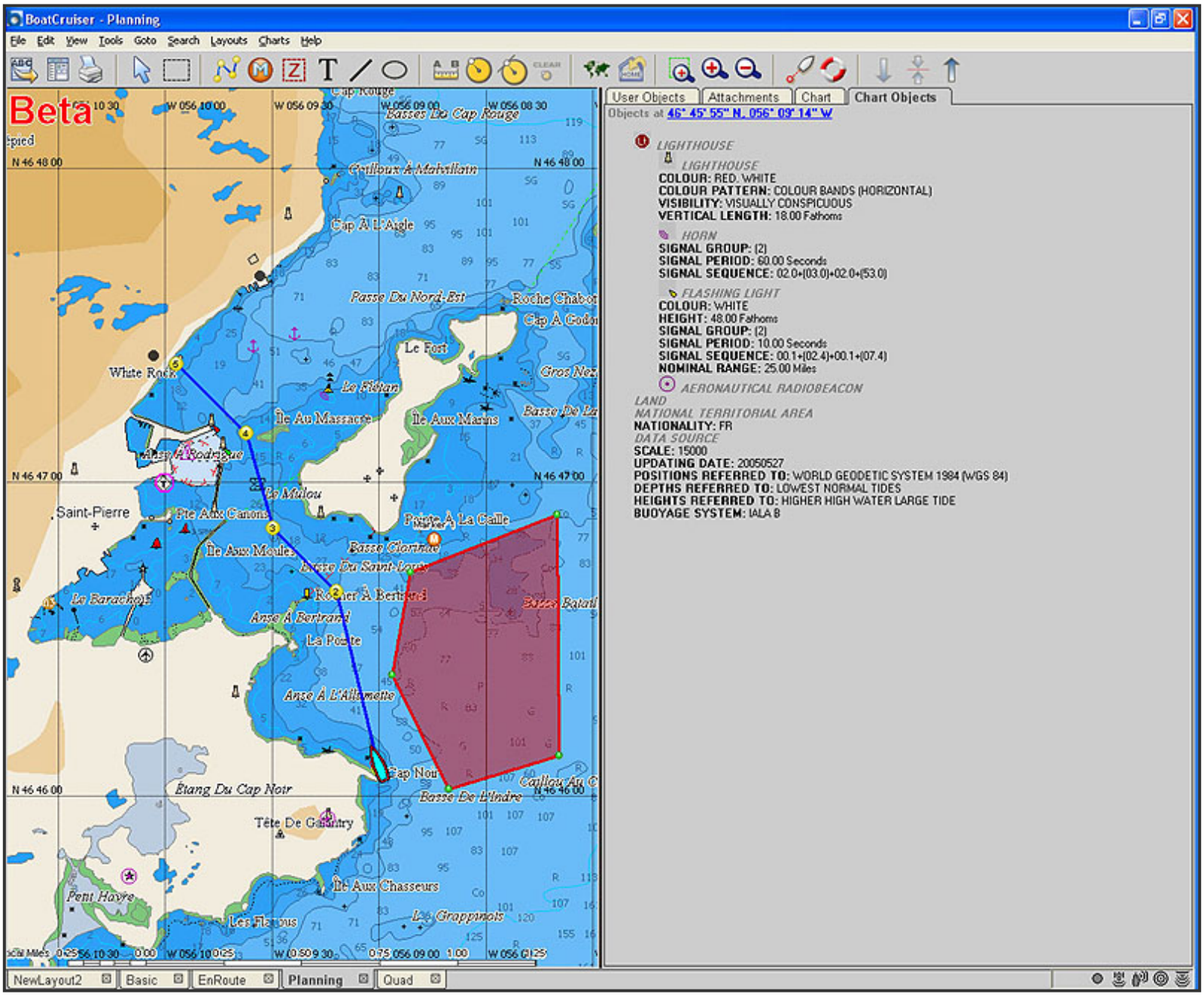
- **EnRoute:** This Layout contains more than a dozen navigational tool options. The left of the screen contains status boxes including device status and Waypoint information. AIS targets can be viewed on the right side when AIS (Automatic Identification System) is enabled. Below AIS Targets, Properties of the Chart or Chart Objects can be viewed. The Selector Compass and Satellites can be viewed at the bottom right of the screen. Directly below the Chart View, the Time Slider can be used to go back in time to look at Tidal and Simulation data. Please see Time Management for more information.



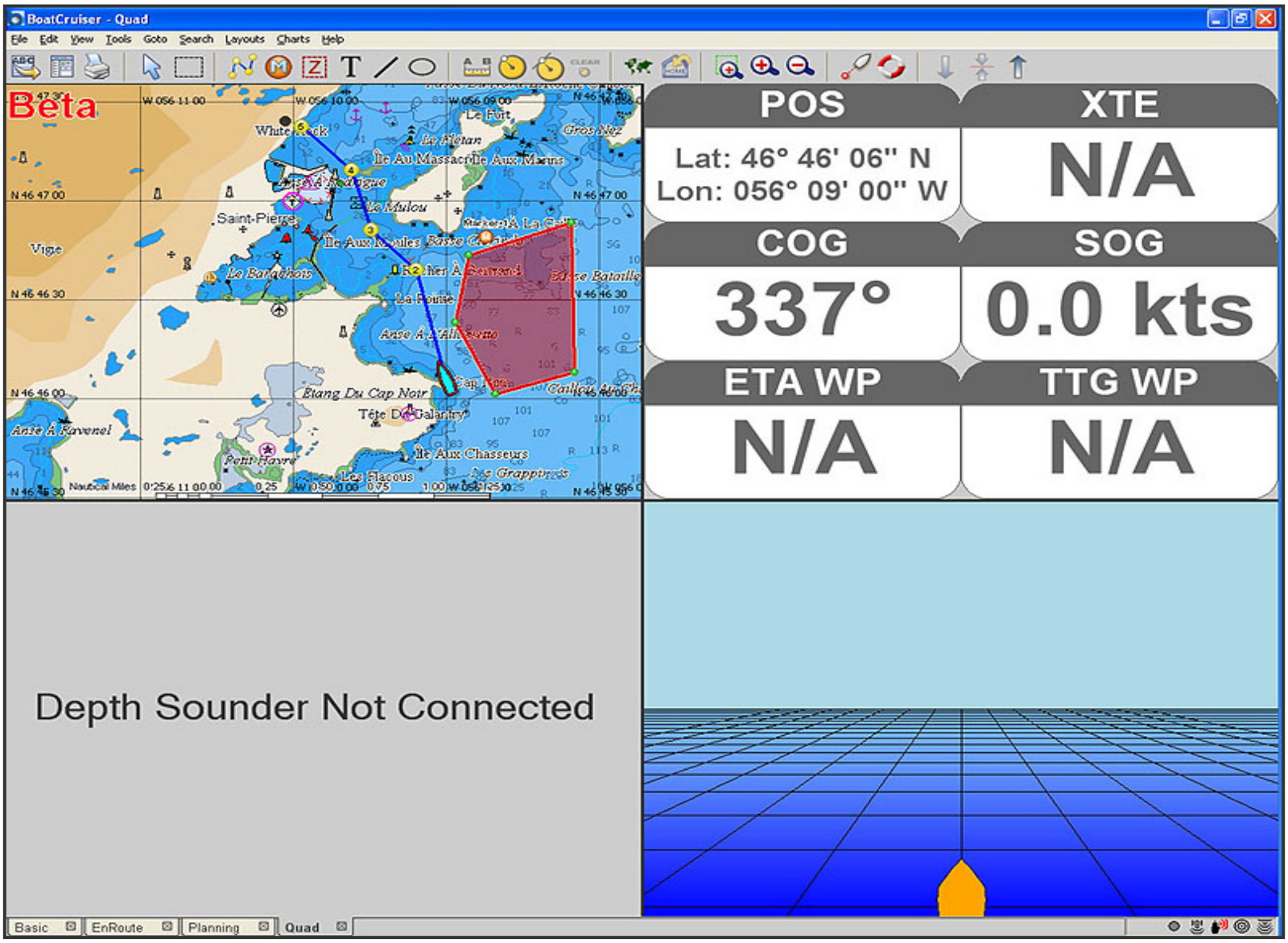
- **Fuel:** The Fuel Layout is designed to calculate details based on Fuel Consumption. When planning a Route, the estimated speed can be entered in the Fuel Consumption Grid under Boat Properties. The Fuel cells can be monitored to show the cost of Fuel, amount of Fuel Consumption and other important details regarding Fuel Calculations.



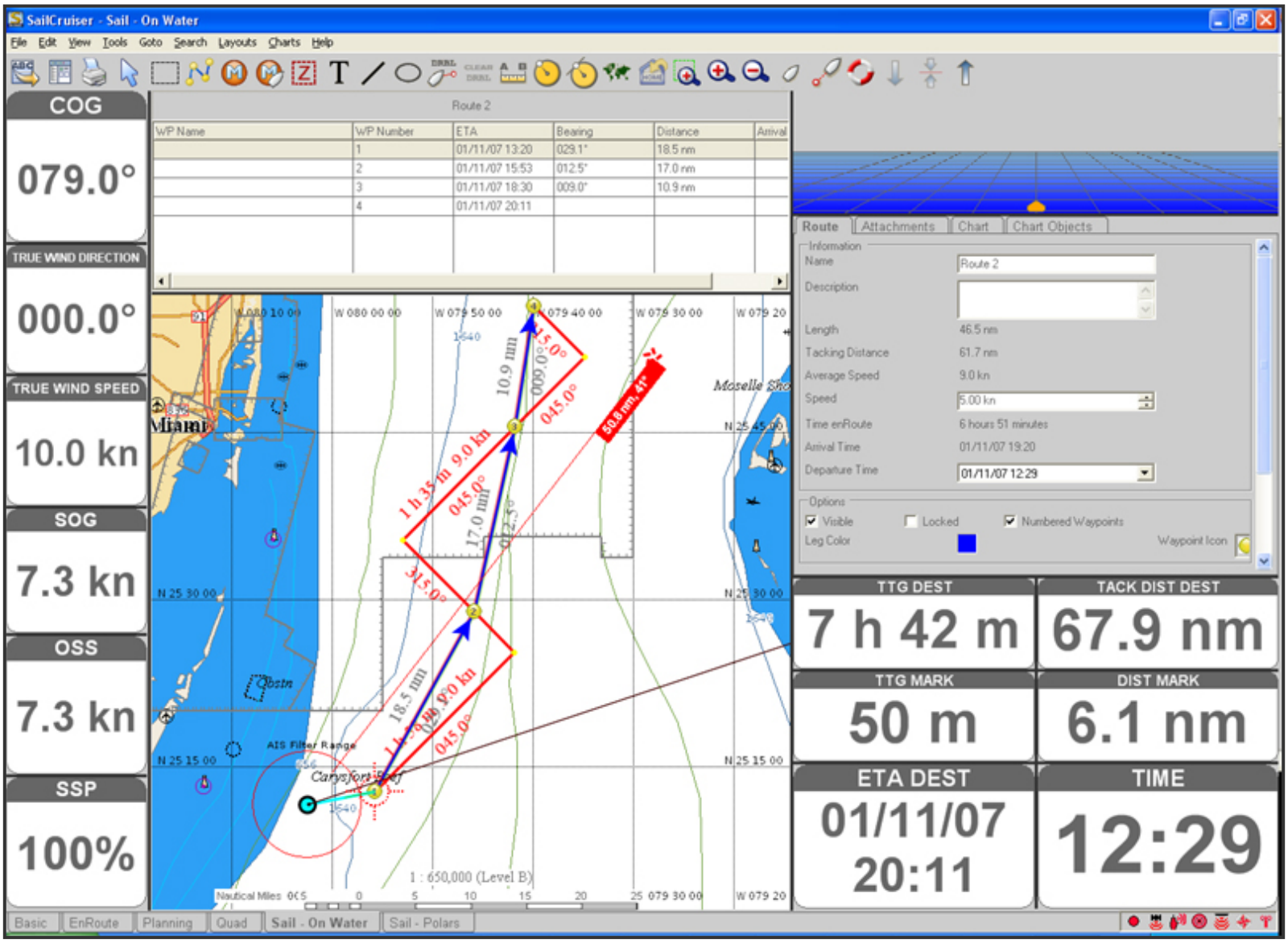
- **Planning:** Planning mode contains a split screen that displays Chart or Object Properties while planning Routes or Creating Markers, Zones and Text Annotations.



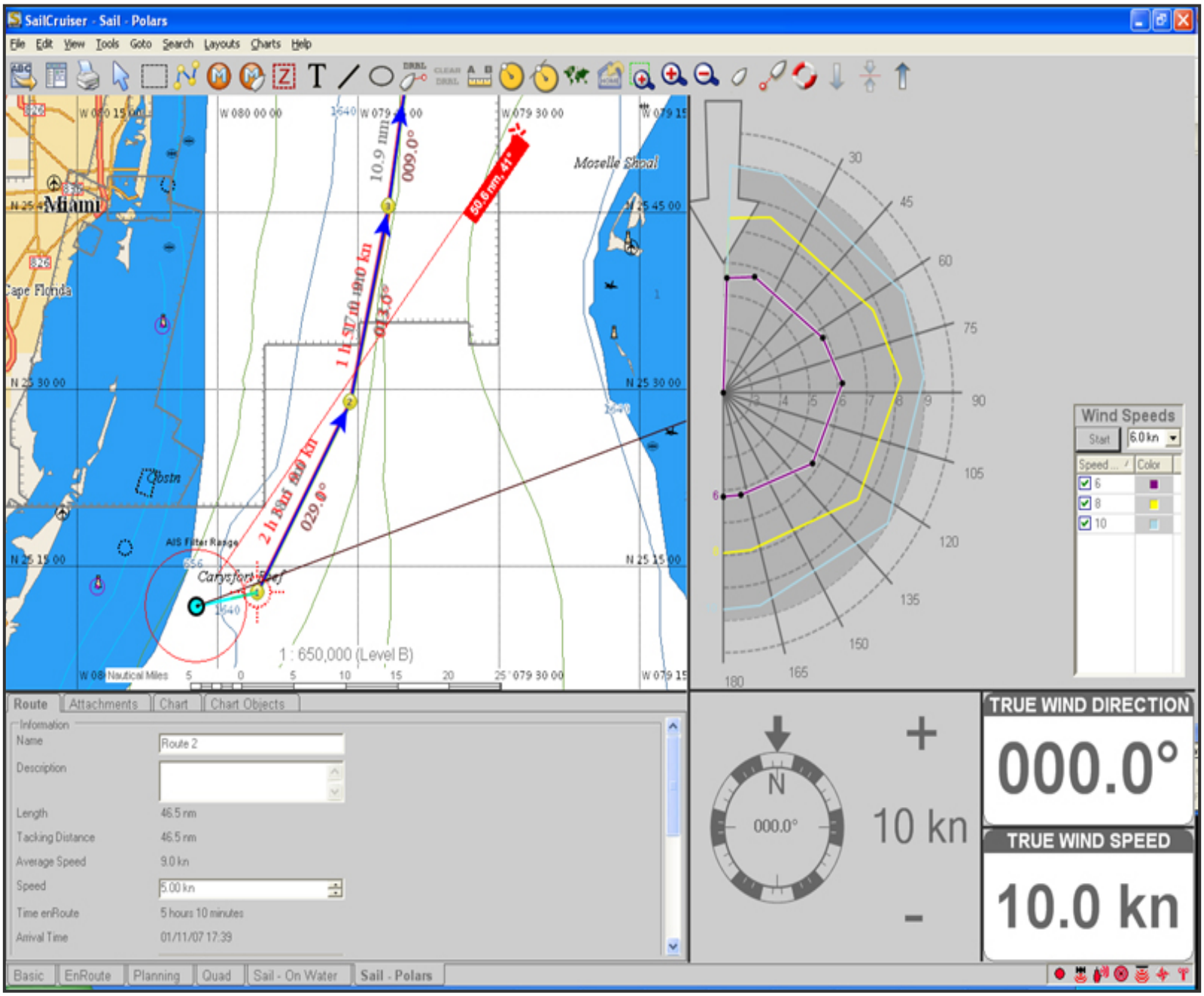
- **Quad:** The Quad Layout features four viewing areas; Main Chart View, Navigational tools status boxes, Depth Sounder Status and Highway View. The size of the areas of the quad may be changed if you wish to have a larger viewing area of the Chart or other Layout cells. The original Layout can be restored in the Manage tab under the Layouts option in the Main Menu. If a depth sounder is connected, the data can be viewed on the bottom left corner of the screen. The Highway View allows viewing of Markers that lay before the Boat and the distance to those Markers will be displayed.



- **Sail - On Water:** (SailCruiser Only) This layout is designed for displaying navigational information such as Speed Over Ground (SOG), Position (POS) etc., as well as information specific to sailing such as Time To Go to Mark (TTG MARK), Distance to Mark (DIST MARK), etc.



- **Sail - Polar:** (SailCruiser Only) This layout is designed for manipulating / viewing the polar plot(s) of the sailboat.



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Creating a New Layout

- The programs allow you to create your own Layout. With over 60 navigation features, virtually an unlimited number of layouts can be created. The screen can also be divided several times horizontally or vertically to create the most functional Layouts. To create a new Layout, simply click on the Layouts button in the Main Menu and click New Layout. Once the New Layout screen appears a new Layout can be created by choosing the desired navigational tools from the drop down box within the cell.

- The tab at the bottom of the first Layout will be called New Layout 1. Right click on this tab to do several things:
    - Close: Closes the current Layout.
    - Close All Others: Closes all other Layouts. These can placed back on the main view by placing a check mark next to the layouts you wish to see under the Layouts option in the Main Menu.
    - Rename: The name of the Layout can be changed at any time.

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Managing Layouts

- **Delete:** Deletes Layouts that have been created. Default Layouts can not be deleted.

- **Restore:** When changes are made to the default Layouts, they can be brougt back to original Layout by pressing Restore.

- **Import:** Imports Layouts (.nsl files) from other locations on the computer. Highlight the Layout to be Imported and click on the Import button to choose the location to export from.

- **Export:** Exports the Layouts that have been created to other locations on the computer. Highlight the Layout that is to be exported and click on the Export button to choose the location to export to.

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Viewing Layouts

- Under the Layouts option in the MainMenu, all of the Layouts will be listed including the default Layouts and any Layouts that have been created. To choose which Layouts to have on the main view (seen as tabs along the bottom) put a check mark next to the chosen Layouts. At any time this setup may be changed by going to the Layouts option and checking or unchecking particular Layouts.

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Layout Display Cells

Display cells are what are used to create custom Layouts. NavSim programs provide an array of display cells for showing different navigational information. The following list describes these display cells.

- AIS Targets - Displays AIS targets in range. For more information on AIS, please click here.
- AlarmList - Any alarms due to entering proximity circles, crossing parallel index lines, etc., are listed here until dismissed.
- Altitude - Displays the current altitude, as read from the GPS. Displays sea level when no information is available.
- Bearing to Cursor - Shows the bearing from the Boat position to the cursor on the Chart View. Displays N/A when the cursor is not over the Chart View.
- Bearing To Mark - Bearing to the next mark, i.e., tacking point.
- Bearing To Next WP - Displays the bearing to the next Waypoint in the active Route. Displays 0° when no Route is active.
- Camera - Shows camera view when a unit is connected to the PC.

- Chart View Primary - Main Chart View. Displays Charts, allows the creation of Routes, Markers, etc.
- Chart View Secondary - (Note: NCPRO only)- Allows viewing of a second chart format.
- COG - Course Over Ground - Displays the current course in a digital readout.
- Compass-Circular - Displays the present heading in a circular compass and a digital readout. Shows Boat at centre. Displays the current Route and its Markers when navigating. Dragging the compass view affects the current boat heading when dead reckoning.
- Compass-Linear - Displays the current heading in a linear graded compass. Dragging the compass view affects the current boat heading when dead reckoning.
- Compass- Linear Selectable - Provides a single panel which may be switched from a circular to linear compass through the Context Menu. Right-click to display the Context Menu.
- Cursor Position - Displays the latitude and longitude of the mouse pointer when moving over the Chart View. Displays N/A when the mouse cursor is not over the Chart View.
- Date- Local - Gives the current date as read from the operating system.
- Date-Time Local - Gives a combination of date and time as read from the operating system.
- Dead Reckoning Control - Using heading and speed, this cell provides the captain with a positioning tool when GPS is not available. Enables the user to update the Boat position based on speed.
- Depth- Displays last depth value received.
- Depth View - Gives a profile of the ocean bottom using information from a depth sounder. Displays "Depth Sounder Not Connected" when no sounder is connected.
- Distance To Cursor - Displays the distance from the Boat to the cursor when moving over the Chart View. Displays N/A when the cursor is not over the Chart View.
- Distance to End- Gives distance to the end of an activated Route.
- Distance To Mark - Distance to the next mark, i.e., tacking point.
- Distance To Next WP - Gives the distance to the next Waypoint when navigating an active Route. Displays N/A when not navigating.
- DRBL- Dynamic Range Bearing Line - Displays information about the currently selected dynamic range bearing line including latitude, longitude, bearing, range, TTG, CPA and TCPA.
- ETA List - Estimated Time of Arrival to next Waypoint. Also lists Waypoint name, number, bearing, distance and arrival time.
- ETA to Dest - Displays Estimated Time of Arrival to end of activated Route.
- ETA To Mark - Estimated time of arrival of the next marker, i.e., tacking point.
- ETA To Next WP - Shows the estimated time to reach the next Waypoint when navigating an active Route. Displays N/A when not navigating a Route.
- Fuel Burn Rate - Determines the approximate amount of fuel being consumed at the currect speed over ground. The user must set up the fuel profile for this to work.
- Fuel Consumption Graph - Control used to edit the fuel profile for the vessel.
- Fuel Cost to WP - Displays fuel cost to next Waypoint on the activated Route.
- Fuel to Next WP - Displays fuel usage to next Waypoint on activated Route.
- Fuel Used- Displays amount of fuel used since activation of the current Route.
- Fuel Used Cost - Displays cost of fuel used since activation of the current Route.
- GPS- HDOP - Horizontal Dilution of Precision. Indicates signal strength of GPS.
- GPS- Satellite View - Shows the GPS satellite constellation and the signal strength for each compass. The centre cross hair represents satellites directly overhead while the outer circle represents the horizon. The bars below the display indicate the signal strength. Green satellites indicate stong signals, yellow satellites indicate

degraded signals and red satellites show poor signal strength.

- Heading - Magnetic - Current heading, relative to magnetic north.
- Heading- True - Current Heading relative to True North.
- Highway View- Gives an elevated, course-up view of the currently active Route when navigating. The view is unpopulated when no Route is active.
- Magnetic Variation - Displays the magnetic variation at the current position.
- NMEA Logger - Diagnostic tool to check device connections. Can be saved to file for future reference.
- Object Summary - Displays properties of chart objects (Routes, Markers, Zones) inlcluding name, position, description etc. This information can be obtained by clicking once on the desired object.
- Optimal Sailing Heading (OSH) - (Note: SC only) Heading that should be taken that will result in the fastest time to the next waypoint.
- Optimal Sailing Speed (OSS) - (Note: SC only) Speed that will be realized using the optimal sailing heading and current wind speed and direction.
- Polar Plots - (Note: SC only) Allows the user to enter, view and manipulate boat-specific polar data to customize the program to reflect the boat's unique performance on different points of sail.
- Position - Shows the latitude and longitude of the current boat/vessel position.
- Properties - The Properties display panel lists a host of Properties for different Objects. It has several tabs for user Object, attachment, Chart, and Chart Object Properties. Selecting a Chart or Object will show its properties in the Properties panel. For C-Map Charts, clicking on a region, city, light house, or other point of interest displays its Properties in the Chart Objects tab.
- Radar EBL- Electronic Bearing Line - (Note: NCPRO only) - Displays the value of Radar EBL 1
- Radar EBL2- Electronic Bearing Line - (Note: NCPRO only) - Displays the value of Radar EBL 2
- Radar Range- Primary - (Note: NCPRO only)- Displays the range of the Radar ring on the primary display
- Radar Range- Secondary - (Note: NCPRO only)- Displays the range of the Radar ring on the secondary display
- Radar VRM- Variable Range Marker - (Note: NCPRO only) Displays the value of Radar VRM 1
- Radar VRM- Variable Range Marker - (Note: NCPRO only) - Displays the value of Radar VRM 2
- ROT- Rate of Turn - Measures how fast the boat/vessel is turning.
- SOG- Speed Over Ground - Shows the current speed over ground when Dead Reckoning or navigating with GPS.
- Sailing Speed Performance (SSP) - (Note: SC only) Ratio (displayed as a percentage) of current SOG to the optimal speed determined via the polar plot using the current heading and wind speed and direction.
- Speed Control - Separate speed control than that provided through the Dead Reckoning panel. Provides the same functionallity.
- Status - Shows a quick view of present device settings, giving the status of GPS, AIS, ARPA, Depth Sounder, Autopilot, Dead Reckoning, and trajectory recording.
- Strip Chart - Used to view detailed information about the vessel after running a simulation, e.g., rudder position, engine rpm etc.
- Tack Distance to Dest (Note: SC only)- Distance to the destination waypoint if the all the optimal tacks are followed.
- Tack Distance to WP (Note: SC only)- Distance to the next waypoiont using the current tack
- Time- Local - Displays the current local time
- Time Machine - See Time Management for a detailed description of the Time Machine.
- Tripometer - Displays the distance travelled on the present trajectory when dead reckoning or navigating with the GPS.
- Tripometer A - Primary tripometer
- Tripometer B - Secondary tripometer whcih can be used independently of tripometer A

- TTG to Cursor - Time to go to the cursor, at the present speed computed as the distance to the cursor divided by current speed over ground. Note that course / heading is not used in this calculation. If the vessel is moving away from the cursor, then the TTG willl be incrasing.
- TTG to Dest - Time to go to the destination, i.e., last waypont of the active route
- TTG to Next WP - Gives the Estimated Time of Arrival to the next Waypoint on the activated Route
- TTG to Mark - Time to go to the next mark, i.e., tacking point

- Vector Chart Objects - Dispays information for Objects embedded in vector charts.
- Water Temperature - Displays the current water termperature
- Wind Control - (Note: SC only) Allows the user to manually enter the wind speed and direction
- Wind Direction - Relative - Displays the current relative wind direction
- Wind Direction - True - Displays the current ture wind direction
- Wind Speed - Relative - Displays the current relative wind speed
- Wind Speed - True- Displays the current true wind speed

- XTE- Cross Track Error - Displays the Cross Track Error for the current leg of the Route while navigating. Displays N/A when not navigating

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Time Machine

- TimeMachine Overview
- Reviewing Trajectories
- Using the TimeMachine
- Reviewing Simulated Trajectories
- Reviewing Tides

TimeMachine Overview

There are two modes of operation in the pogram; Real Time (actual time) mode and Playback mode (a past or future time reference). The program, internally binds a time-frame to all the Trajectories acquired through the **GPS** or Simulated using the program's internal Simulator.

Using the concept of a TimeMachine, the program allows the capability to move backward or forward in time. In other words, old trips recorded using the program can be re-visited and the sequence of movements or events can be played back for review purposes. Similarly, Trajectories can be simulated in a future time-frame.

The TimeMachine can be viewed by choosing any Layout containing the TimeMachine cell or through any custom Layout that is created. The TimeMachine displays daylight information, Tidal data, Time, Trajectories and other alarms (Zone alarms, MOB, etc). This innovative concept attaches a time-frame to every event or action that is relevant to navigation.

The TimeMachine provides a visual time line of the program's objects. In the TimeMachine cell shown below; the tidal data is in blue, daylight is in yellow and a recorded Trajectory is shown with a purple line. The vertical red line marks the current time and the grey line marking the time of interest which can be in the past or in the future.

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Using the Time Machine

The TimeMachine can be used quite easily, once mastered, using the buttons embedded in the TimeMachine cell and by clicking on the cell and dragging the time reference once the TimeMachine is unlocked from the real world time.

- Click on this **Activate** toggle button in the TimeMachine cell to activate the playback mode. By default, the TimeMachine is locked to the current time. It has to be unlocked before trajectories, alarms, tidal data from the past or the future can be reviewed. Once the TimeMachine is activated to the playback mode, the activate button will toggle to the de-activate button.

- Click on the **De-activate** toggle button to revert back to the current real time or real time mode. Once the TimeMachine is de-activated to the real time mode, the de-activate button will toggle back to the activate button.

Once in the playback mode, you can pan around in the time-frame by clicking and dragging anywhere in the TimeMachine cell. The TimeMachine is a time series display of the events explained in the TimeMachine Overview. Events recorded by the program can easily be viewed by panning/zooming around the TimeMachine or by selecting a date directly with the date display button next to the date/time display.

The **zoom in** and **zoom out** buttons can be used to alter the time scale of the TimeMachine. i.e. The view can be adjusted to a span of months, weeks, days, hours or seconds by zooming in and out. The scroll-button on the mouse can be used for the same function.

While playing back Trajectories, the

time speed buttons are used to speed up/down the playback speed where 1x denotes real time.

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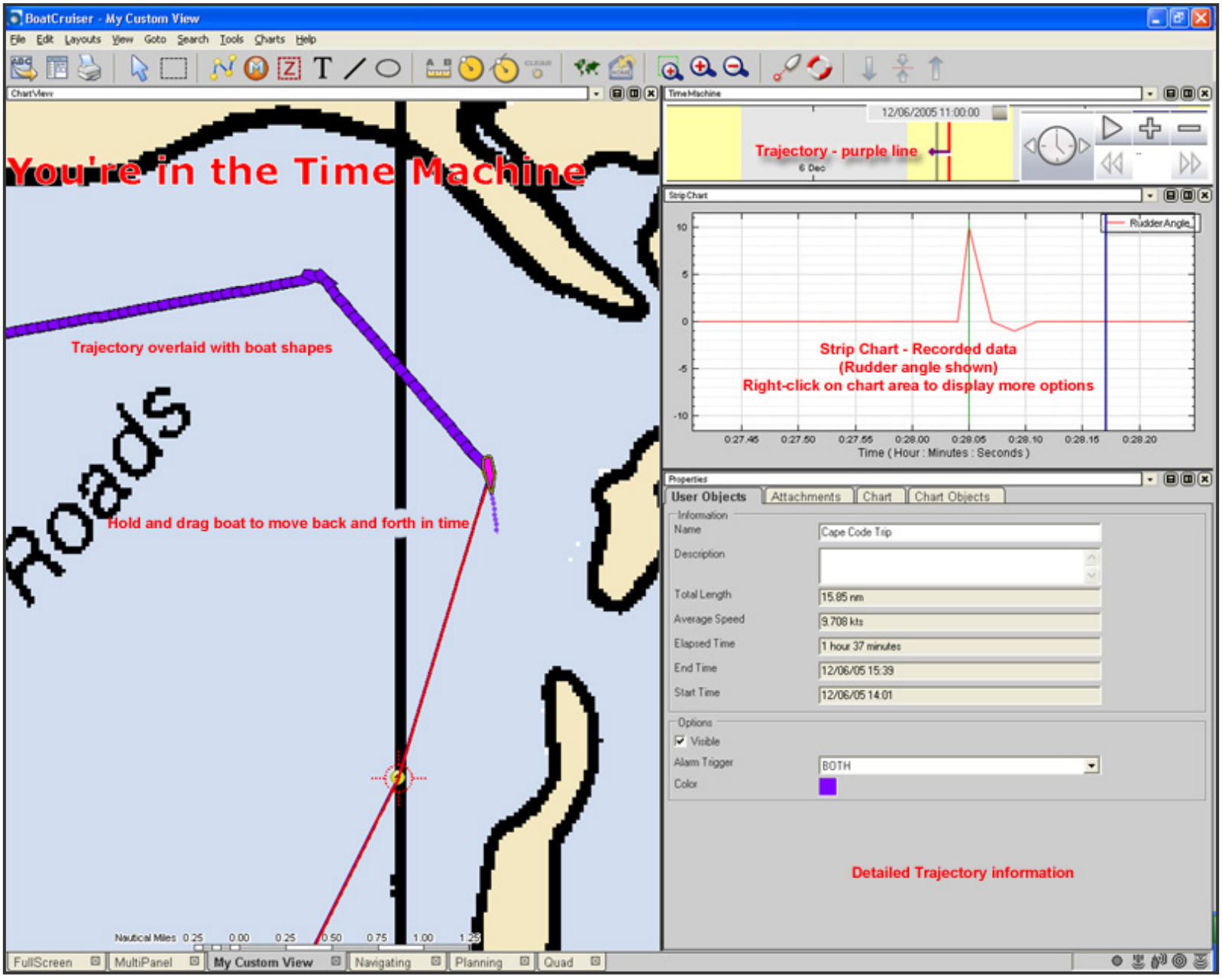
Reviewing Trajectories



A purple line in the TimeMachine cell denotes a Trajectory (gps or simulated) acquired at the displayed time. Double clicking on any Trajectory (purple line) or any other object in the TimeMachine cell changes the current time reference to the time when the

selected object was recorded.

Note: Trajectories recorded from GPS data do not have additional information such as rudder angle, engine rps, etc. Only the simulated Trajectories contain additional data that can be displayed by selecting the options on the Strip Chart (right-click on strip-chart to view all data).

Read **Using the Time Machine** to find out more on how to use the TimeMachine.

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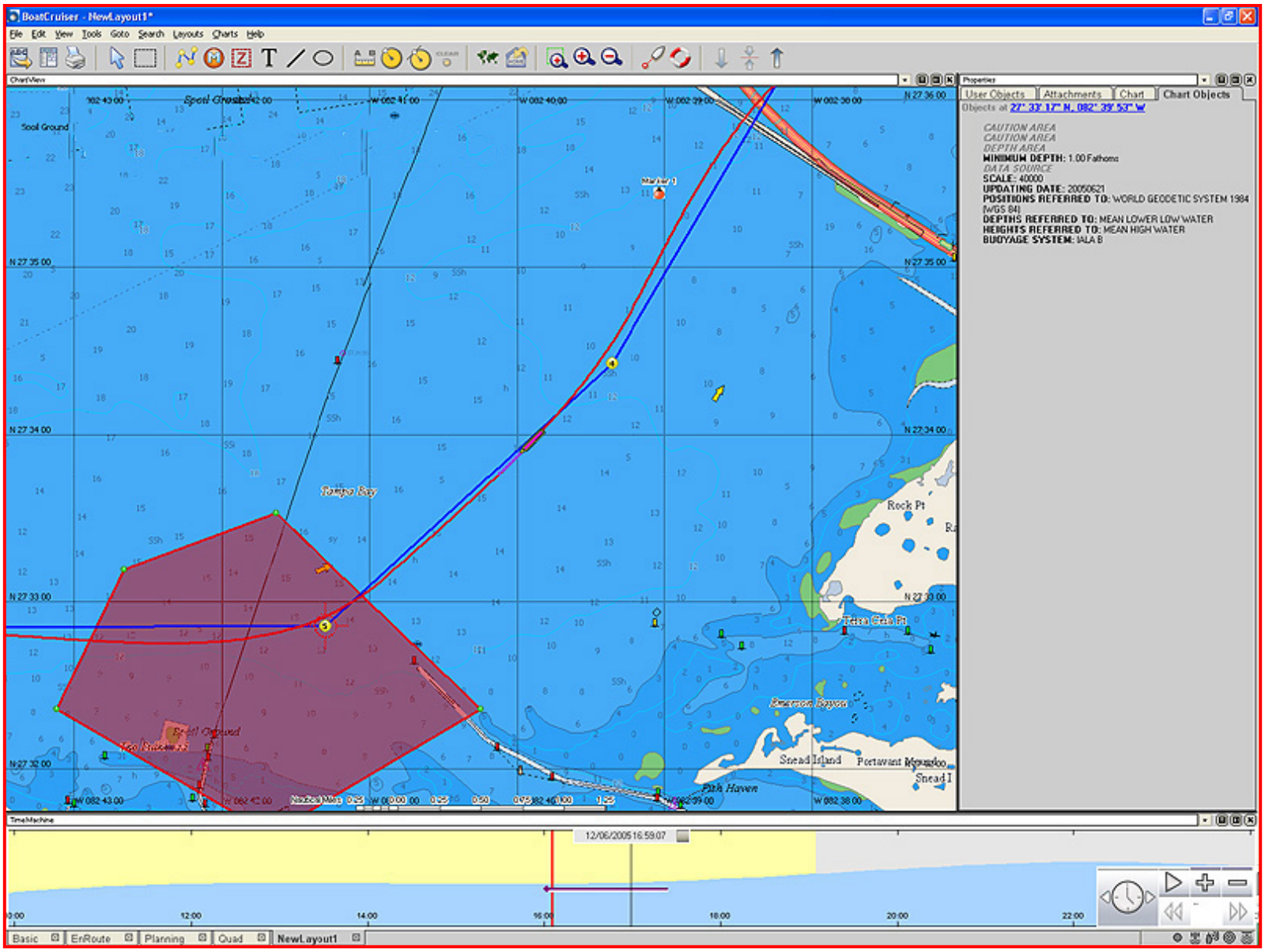
Reviewing Simulated Trajectories

Simulated Trajectories have the same properties as that of a GPS recorded Trajectory. Simulated Trajectories can be reviewed the same way as Reviewing a GPS Trajectory. The screenshot below displays the playback of a simulated Trajectory. Notice the icon to signify that the TimeMachine is in the Playback mode with the vertical red line in the TimeMachine cell marking the current time and the grey line marking the time of interest which can be in the past or in the future (as in this case).



Note: Trajectories recorded from GPS data do not have additional information such as rudder angle, engine rps, etc. Only the simulated Trajectories contain additional data that can be displayed by selecting the options on the Strip Chart (right-click on strip-chart to view all data).

Please read the help section on **Simulation** to find out more about simulated Trajectories.

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Reviewing Tides

Tidal data can only be viewed when navigating in an area where there is a tidal station in the vicinity. If a **Tidal Station** is in the chart view, the data is automatically displayed in the TimeMachine cell with a cyan background as shown below:

2

Please read the help section on **Tides** to find out more about Tidal stations and Tidal data.

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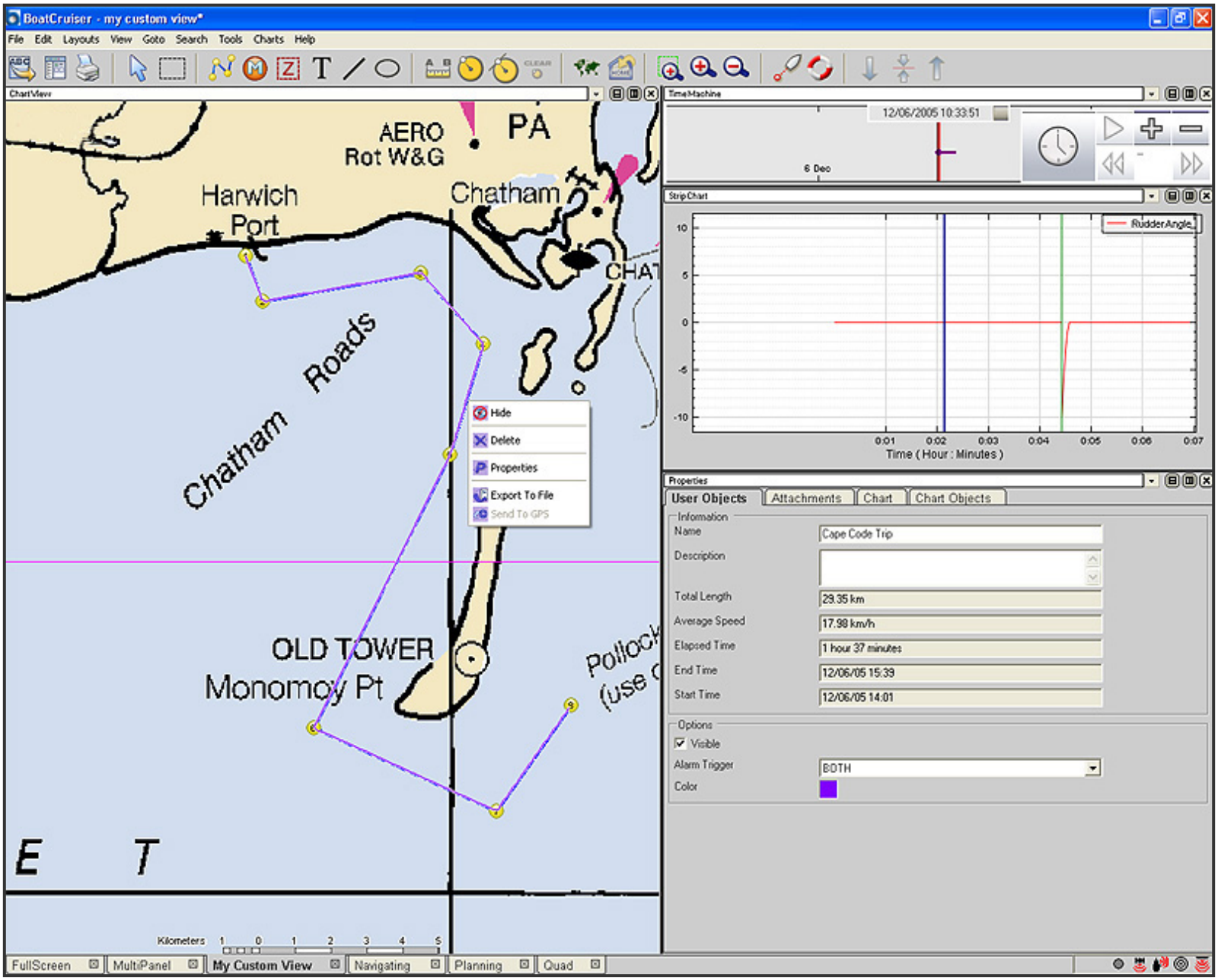
Working With Tracks (Trajectories)

- Working From The Chart View
- Trajectories In NavManager
- Using The Time Machine with Trajectories

Working From The Main Chart View

Trajectory in the Main Chart View:



Right clicking on a Trajectory displays the Trajectory context menu. This Trajectory context menu has purple icons and should not be confused with the context menu for routes which has blue icons. It may be needed to zoom into the chart view to get a clear view of the desired Trajectory. The Trajectory context menu has the following options:

- **Hide:** Hiding the Trajectory will make the Trajectory invisible on the chartview without deleting the Trajectory info. The hidden Trajectories can be made visibile again using the chart context menu by right-clicking anywhere on the chart and

selecting the Show hidden objects option. Hidden Trajectories can also be made visible using the NavManager's Trajectory Management functions.

- **Delete:** This option will delete the Trajectory. The Trajectories deleted by mistake can always be retrieved from NavManager's Trash-Bin. Note that this is only possible if the Trash-Bin hasn't been emptied since you deleted the Trajectory.

- **Properties:** When a Trajectory is selected, the Trajectory details are displayed in the User Objects tab of the Properties page. Double-clicking on the Trajectory displays the same Trajectory Properties in a separate window.

- **Export:** There are two options available:
  - **Export To File:** This option saves the Trajectory as an object (a .nso file). For more information on importing these file types click here.
  - **Send To GPS:** This option sends the Trajectory to the GPS.

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Trajectories In NavManager

Trajectories can be viewed and managed with the NavManager by clicking on the NavManager button in the main toolbar. Please read the section on Managing Trajectories using the NavManager for detailed information.

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Trajectories and TimeMachine

A Trajectory can be created by using a GPS or running a simulation on a desired route. BoatCruiser, internally, binds a time-frame to all the Trajectories acquired through the **GPS** or simulated using BoatCruiser's internal Simulator. Recorded Trajectories can be revisited using the TimeMachine.

Read the Help section on Reviewing a Trajectory with the TimeMachine for detailed information.

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Context Menus

- About Context Menus
- Zone - Waypoint
- Chart
- Marker
- My Boat
- Text Annotations
- Route - Leg
- Multiple Objects
- Route - Waypoint
- Trajectory
- Zone - Leg

About Context Menus

NavSim's products have ten types of Context Menus that can be accessed by right clicking on the various BoatCruiser / SailCruiser / NavCruiser Pro Objects such as Routes, Trajectories, Markers, Annotations, etc. Each menu is unique and is designed to show Properties and make changes directly on the Main Chart View. The contents of these menus are described below.

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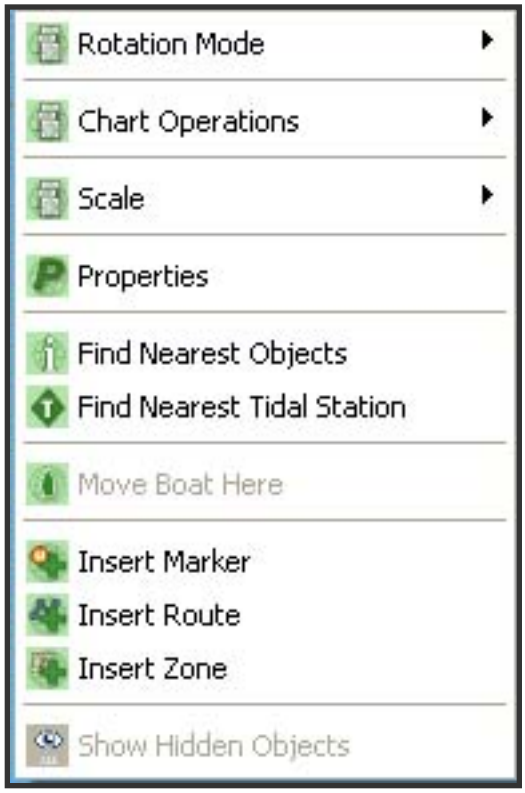
Chart Context Menu



Rotation Mode: Allows chart rotation including: North Up, East Up, South Up, Magnetic North Up, Course Up and Heading Up. See Rotated Views for more information.

Chart Operations Include:

Switch to Single/Multiple Chart Mode: Gives the option to view multiple Charts or a single Chart. This is not applicable in C-Map mode.

Hide Chart: Hides the current Chart. This Chart can be restored in the NavManager or by clicking Show Hidden Objects in the Context Menu. This is not applicable in C-Map mode.

View at 100%: Magnifies the current view to 100%. This is not applicable in C-Map mode.

Center Chart: Brings the current Chart to the centre. This is not applicable in C-Map mode.

List Charts Under Cursor: Lists the Charts and their details at the current cursor position.

Show All Charts in View: Shows all charts in view (will not display hidden charts).

Switch to Other Data Source: Switch from C-Map to other chart view (BSB etc.)

Remove Chart: Removes the current Chart. This is not applicable in C-Map mode.

Show Non-Navigable Boundaries: Displays details along the boundary of the current Chart. This is not applicable in C-Map mode.

Properties: Displays current Chart and Object Properties.

Find Nearest Objects: Searches and lists the nearest Chart Objects of the current position. These Objects may inlcude airports, signal stations, rocks and navigation marks. To view details on these Objects or to be taken to their location, simply click and double click on the specific Object.

Find Nearest Tide Station: If there are Tide Stations in the area, these will be displayed. As with Objects, click or double-click on these stations to look at their details or to be taken to a particular station.

Move Boat Here: Moves the Boat to the current cursor position.

Insert Marker: Shortcut to insert a Marker at the current cursor position.

Insert Route: Shortcut to create a Route at the current cursor position.

Insert Zone: Shortcut to create a Zone at the current cursor position.

Show Hidden Objects: Restores hidden Objects on the current Chart.

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Vessel/Boat Context Menu

Find Nearest Objects: Searches and lists the nearest Chart Objects surrounding the Boat. These objects may inlcude airports, signal stations, rocks and navigation marks. To view details on these Objects or to be taken to their location, simply click and double click on the specific Object.

Find Nearest Tidal Station: If there are Tidal stations around the Vessel/Boat, these will be displayed. As with Objects, click or double-click on these stations to look at their details or to be taken to a particular station.

Boat Properties: Displays the Properties of the Vessel/Boat. Features of the Vessel/Boat may also be modified here. These features include: Dead Reckoning, Recording, Route Speed, Radius Circles, Look Ahead, Display and Fuel Consumption.

Insert Marker: Shortcut to insert a Marker at the current location of the boat.

Insert Route: Shortcut to insert a Route a the current location of the boat.

Man Overboard: Shortcut to place Man Overboard Marker at the current location of the vessel/boat.

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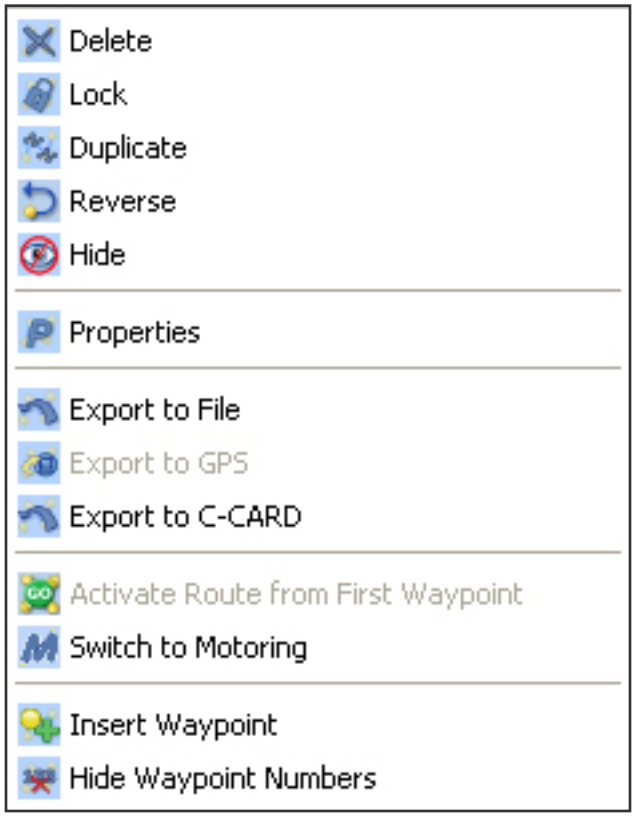
Route - Leg Context Menu



Delete: Deletes the current Route.

Lock: Locks the current Route. This will prevent making any changes while the Route is Locked and from accidentally moving the Route. The Route can be Unlocked in the NavManager or by clicking on the same button in the Context Menu that will now read Unlock.

Duplicate: Creates a duplicate of the current Route.

Reverse: Reverses the order of the Waypoints of the current Route.

Hide: Hides the current Route. This Route can be restored in the NavManager or by clicking on Show Hidden Objects in the Chart Context Menu.

Properties: Displays Properties of the current Route. The name of the Route, leg speed and name of Waypoints may also be altered from the Properties box. Attachments will also be displayed here.

Export to File: Save the Route (.nso file) to a location on the computer.

Export to GPS: Upload the current Route to a GPS device.

Export to C-CARD: Send the current Route information to a C-CARD.

Activate Route from First Waypoint:

Insert Waypoint: Inserts a Waypoint at the current position of the Route Leg.

Hide Waypoint Numbers: Hides the numbers on the Waypoints. This can be restored when this option changes to Show Waypoint Numbers.

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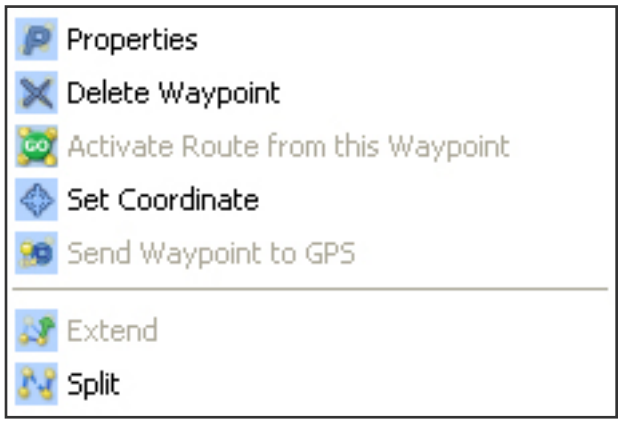
Route - Waypoint Context Menu



Properties: Displays properties of the current Route. The Route may also be named, leg speed can be changed and the Waypoints can be named under Properties. Attachments will also be displayed here.

Delete Waypoint: Deletes the current Waypoint.

Start Simulation from this Waypoint: Starts a Simulation from the first point of the current Route.

Activate Waypoint: Displays the distance to this Waypoint from the current Boat location.

Set Coordinate: Sets the location of the Waypoint by setting the coordinate or specific location.

Send Waypoint to GPS: Upload the current Waypoint to a GPS device.

Hide Waypoint Numbers: Hides the numbers on the Waypoints. This can be restored when this option changes to Show Waypoint Numbers.

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Zone - Leg Context Menu

Delete: Will delete the Zone.

Lock: Locks the current Zone. This will prevent making any changes while the Zone is Locked and from accidentally moving the Zone. The Zone can be Unlocked in the NavManager or by clicking on the same button in the Context Menu that will now read Unlock.

Duplicate: Creates a duplicate of the current Zone.

Hide: Hides the current Zone. This Zone can be restored in the NavManager.

Properties: Displays properties of the current Zone. You may also name the Zone and its Waypoints. Attachments will also be displayed here.

Export To File: Save the Zone (.nso file) to a location on the computer.

Insert Waypoint: Inserts a Waypoint at the current position of the Zone leg.

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Zone - Waypoint Context Menu

Delete: Deletes the Zone.

Lock: Locks the current Zone. This will prevent making any changes while the Zone is locked and from accidentally moving the Zone. The Zone can be Unlocked in the NavManager or by clicking on the same button in the Context Menu that will now read Unlock.

Duplicate: Creates a duplicate of the current Zone.

Hide: Hides the current Zone. This Zone can be restored in the NavManager.

Properties: Displays properties of the current Zone. The Zone and its Waypoints may also be named under Properties. Attachments will also be displayed here.

Export To File: Save the Zone (.nso file) to a location on the computer.

Delete Waypoint: Deletes the chosen waypoint. A Zone must contain no less than three waypoints so it will not be possible to delete a waypoint on a zone that has three or less waypoints.

Set Coordinate: Sets the location of the waypoint by setting the coordinate or specific location.

Send Waypoint to GPS: Upload the current Zone to your GPS device.

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Marker Context Menu

Delete: Deletes the Marker.

Lock: Locks the current Marker. This will prevent making any changes while the Marker is Locked and from accidentally moving the Marker. The Marker can be Unlocked in the NavManager or by clicking on the same button in the Context Menu that will now read Unlock.

Duplicate: Creates a duplicate of the current Marker.

Set Coordinate: Determines the location of the Marker by setting the coordinate or specific location.

Set to Home Marker: A marker may be selected to make it the Home Marker. When a Home Marker is selected, the Jump to Home Marker

can be clicked on at any time to be taken to this Marker.

Hide: Hides the current Marker. This Marker can be restored in the NavManager.

Properties: Displays properties of the current Marker. The Marker may be renamed and several other features can be altered under Properties. Attachments will also be displayed here.

Export to File: Save the Marker (.nso file) to a location of your choice.

Export to GPS: Upload the current Marker to a GPS device.

Export to C-CARD: Send the current Marker information to a C-CARD.

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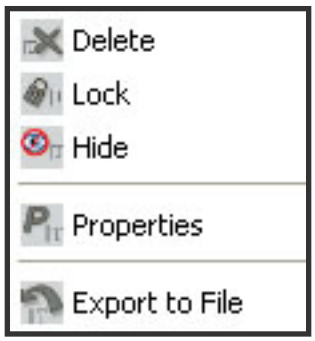
Text Annotations Context Menu



Delete: Deletes the Text Annotation.

Lock: Locks the current Text Annotation. This will prevent making any changes while the Annotation is Locked and from accidentally moving the Annotation. The Annotation can be Unlocked in the NavManager or by clicking on the same button in the Context Menu that will now read Unlock.

Hide: Hides the current Text Annotation. This Annotation can be restored in the NavManager.

Properties: Displays properties of the current Text Annotation. The text of the Annotation may be changed as well as Locking and Unlocking can be done under Properties. Attachments will also be displayed here.

Export to File: Save the Text Annotation (.nso file) to a location on the computer.

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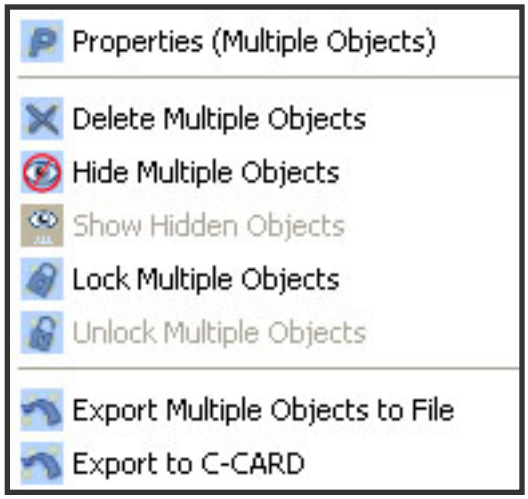
Multiple Objects Context Menu



Properties (Multiple Objects): Displays Properties of Multiple Objects and gives the option to lock these Objects. Attachments will also be displayed here.

Delete Multiple Objects: Deletes the selected Multiple Objects.

Hide Multiple Objects: Hides the chosen Objects. These Objects can be restored in the NavManager.

Show Hidden Objects: Shows Objects that have been hidden.

Lock Multiple Objects: Locks the current objects. This will prevent making any changes while the objects are Locked and from accidentally moving the objects. The objects can be unlocked in the NavManager or by clicking on the same button in the Context Menu that will now read Unlock.

Unlock Multiple Objects: Unlocks selected Multiple Objects.

Export Multiple Objects to File: Saves the Objects (.nso file) to a location on the computer.

Export to C-CARD: Send the current Multiple Object information to a C-CARD.

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Trajectory Context Menu

Delete: Deletes the selected Trajectory.

Lock: Locks the Trajectory.

Hide: Hides the current Trajectory. This Trajectory can be restored in the NavManager.

Properties: Displays properties of the Simulated Track. Attachments will also be displayed here.

Export to File: Save the Trajectory (.nso file) to a location on the computer.

Send to GPS: Upload the current Trajectory to a GPS device.

Export to C-CARD: Send the current Trajectory information to a C-CARD.

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Working With Routes

- About Routes
- Reversing a Route
- Adding Waypoints
- Creating a Route
- Hiding a Route from View
- Running Simulations on a Route
- Deleting a Route
- Viewing/Changing Route Properties
- Setting Waypoint Coordinates
- Locking and Unlocking a Route
- Exporting Selected Routes to Files
- Moving Waypoints
- Splitting a Route
- Sending Selected Routes to GPS
- Sending Waypoints to GPS
- Extending a Route
- Deleting Waypoints
- Hiding Route Waypoint Numbering

About Routes

Most Route actions can be performed with the Route Context Menu or in NavManager.

NavSim's programs enables the creation of Routes by creating Waypoints on a Chart. Detailed information about each Waypoint can be seen in NavManager . Individual waypoints can be numbered for easy reference.

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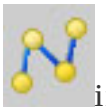
Creating a Route

A Route is created by creating Waypoints in the Main Chart View.

To start a Route, click the Create Route button  in either:

- Main Toolbar or
- Route Context Menu

To finish the Route, left-click a second time on the last waypoint created.

Note that Panning and Zooming is possible while creating a Route, allowing free movement throughout the Chart (or Charts, if in the Quilting Mode), i.e., Route creation is not limited to the area currently displayed on the screen.

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Deleting A Route

There are two simple ways to Delete a Route:

- Right-click on the Route, when the Route Context Menu appears, choose Delete.
- In NavManager, select the Route to be deleted, then click the Delete button located in NavManager toolbar.

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Locking and Unlocking a Route

There are two ways to Lock/Unlock a Route:

- Right-click on the Route, when the Route Context Menu appears, choose Lock or Unlock as needed.
- In NavManager, select the Route to be Locked or Unlocked, and click the Lock or Unlock button as needed.

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Splitting a Route

A Route can only be split from one of its inner Waypoints.

- Right-click on the Waypoint from which the Route is to split, when the Route Context Menu appears, choose Split. The new Route portion will be displayed in a different colour from the original Route. In addition, waypoint numbers will change (ex: 1-2-3-4-5 could become 1-2-3 and 1-2-3). Note that the waypoint from which the Route was split, appears in both resulting Trajectories.

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Extending a Route

A Route can only be extended from one of its end Waypoints.

- Right-click on the end Waypoint of the Route to be extended, when the Route Context Menu appears, left-click Extend, then plot additional Waypoints as needed.

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Duplicating a Route

- Right-click on the Route to be duplicated, when the Route Context Menu appears,

left-click on Duplicate. Once the selected Route has been duplicated it will be displayed in a different colour from the original Route. To move the duplicated Route, simply left-click on any Waypoint and drag it to the desired location.

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Reversing a Route

- Right-click on the Route to be reversed, when the Route Context Menu appears, left-click on Reverse.

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Hiding a Route from View

- In order to hide a Route from the Main Chart View, right-click on the Route to be hidden. When the Route Context Menu appears, left-click Hide. In order to render the Route visible again, select the Route in question from the NavManager and left-click Show Selected

.

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Viewing / Changing Route Properties

General Route Properties can be seen in the Chart Objects tab when a Route is selected in the Main Chart View. More detailed information about the selected Route is available in NavManager .

The easiest way to see information in NavManager is to right-click on a particular Route and select Properties from the Route Context Menu

Route Properties, such as name, leg colour, arrival time etc. can be modified in NavManager.

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Exporting Selected Routes to Files

- In order to export a Route to a computer file, simply right-click on the Route to be exported. When the Route Context Menu appears, left-click Export to File. When the Save As window appears name the file and choose file type NavSim Object File (*.nso). Once the Route has been saved in the .nso format it can be e-mailed to other NavSim program users.

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Sending and Requesting Selected Routes to/from GPS

Sending to and requesting a Route from a GPS is only possible when using the program with Garmin and Magellan GPS systems. Please ensure that the Garmin or Magellan GPS used is configured to communicate with the Garmin Data Transfer or Magellan protocol rather than the NMEA-0183 protocol. Please ensure that the program is connected to a properly configured GPS.

To send a route using the Route Context Menu, right-click on the route and choose Send to GPS.

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Deleting Waypoints

Right-click on the Waypoint you wish to delete, when the **Route Context Menu** appears, choose Delete Waypoint.

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Adding Waypoints

To add a Waypoint, right-click on the desired leg of the Route in question, then choose Insert Waypoint from the **Route Context Menu**

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Running Simulations on a Route

A Simulation can be performed on any existing Route in order to see how well the Boat will maneuver on its pre-set course.

To start a Simulation right-click the Waypoint from which the Simulation is to begin. When the **Route Context Menu** appears, choose Start Simulation from this Waypoint. The Simulation will begin immediately.

To stop the Simulation at any time, choose Stop Simulation from the **Route Context Menu.**

The Simulation will automatically create a **Trajectory**.

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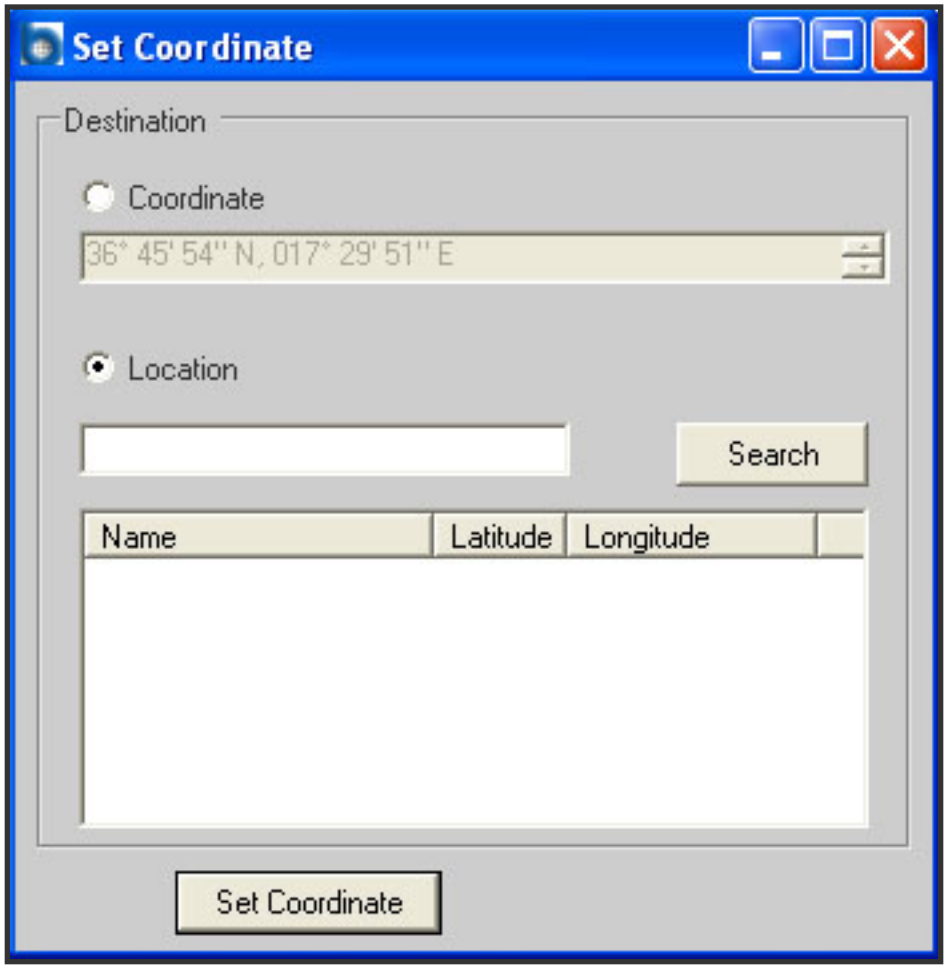
Setting Waypoint Coordinates

- Right-click on the Waypoint to be modified and choose Set Coordinate from the **Route Context Menu**. The following dialog box will appear, so that the desired Waypoint coordinates may be entered manually.



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Moving Waypoints

In order to move Waypoints, simply left-click and drag the desired Waypoint. Moving Waypoints will only be possible while the Route is Unlocked.

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Sending Waypoints to GPS

Sending to and requesting a Waypoint from a GPS is only possible when using the program with Garmin and Magellan GPS systems. Please ensure the Garmin or Magellan GPS being used is configured to communicate with the Garmin Data Transfer or Magellan protocol rather than the NMEA-0183 protocol. Please ensure that the program is connected to a properly configured GPS.

To send a Waypoint using the Route Context Menu, right-click on the Waypoint in question, and choose Send Waypoint to GPS.

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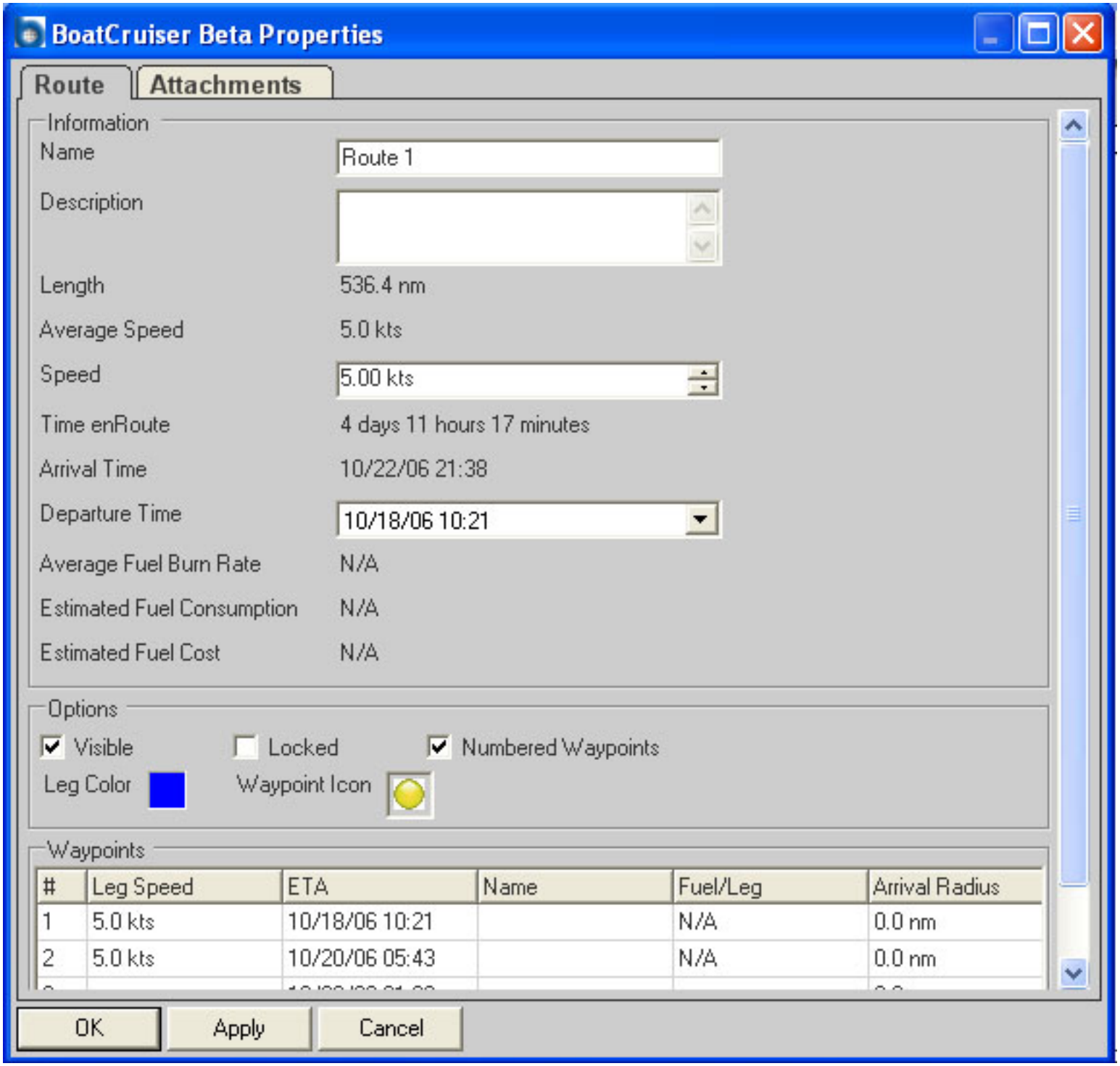
Hiding Route Waypoint Numbering

There are two simple ways to Hide/Unhide Waypoint Numbering:

- The quickest way is to right-click on any Waypoint, then choose Show Waypoint Numbers or Hide waypoint Numbers from the Waypoint Context Menu.
- Alternatively, right-click on any Waypoint and choose Properties from the Route Context Menu - then uncheck Numbered Waypoints from the Options section of the User Objects tab.



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Definitions

Active Route - Route used to determine navigational information such as cross track error, estimated time of arrivals, distance to next waypoint, etc.

AIS GPS Antenna Offset - Same as the GPS Antenna Offset, except the GPS is wired into the AIS system and the AIS is used as the positioning device via the pilot plug.

Annotations - Annotations are explanatory notes and/or illustrations that overlay selected areas.

Autopilot - An automatic device or system that guides or maintains a boat's course. BoatCruiser / SailCruiser / NavCruiser Pro can interface with any autopilot that supports NMEA-0183 input.

Bearing - The direction of an object from an observer, measured in degrees. A bearing can be measured realtive to true north or magnetic north. Bearings can also be measured relative to the heading of the boat, called a relative bearing.

Chart Datum - A permanently established surface from which soundings or tide heights are referenced; usually low water.

Chart Projection - A way to represent the spherical earth on a flat chart. The most common chart projection in marine navigation is Mercator.

Chart Quilting - A technique used to combine electronic charts to form larger charts.

Chart Scale - On a chart, Scale indicates a graduated range of values forming a standard system for measuring distances on the chart.

Chart Object: Objects are the basic pieces of data and/or information that, when brought together, make a chart. A chart object is embedded into the chart and can be, for example, a submarine cable, light, landmark, contour line, depth area, text, etc.

Compass Rose - A graphical display, usually printed on Charts, used for direction measurement. It consists of two or three concentric circles marked in degrees (and fractions of degrees). The outer circle is aligned with 0° pointing to true north. The term "Rose" comes from the figure's compass points resembling the petals of the well-known flower. The compass rose displays the magnetic declination for the position at its centre.

Conning Position - The place on the bridge with a commanding view of the ship and its position used by navigators when commanding, manoeuvring and controlling the ship.

Conning Position Offset - The location of the conning position relative to the bow and centreline of the ship.

Course - The direction in which it is intended that the boat travel. A true course is referenced to true north. A magnetic course is referenced to magnetic north.

COG - Abbreviation for Course over ground.

Course over ground - The actual path of a vessel with respect ot the seabed, measured in degrees. Course may be relative to true north (true course) or magnetic north (magnetic course).

Cross Track Error (XTE)- The Distance from the vessel's present position to the closest point on a line between the origin and destination waypoints of the leg of the active route. If there is no active route, cross track error will show N/A.

Current Station - A current station records current information for a specified location. Within the program, current stations will provide the user with tidal current conditions based on day and time of day.

DRBL - Acronym for Dynamic Range Bearing Line. DRBL is a tool to display the range and bearing to a fixed point (light house, rock, etc.), which updates as the vessel moves.

Dead-reckoning - The technical term for dead reckoning is the process used to determine (and plot) the current position of a vessel, using the last known position, course and speed. In NavSim software, dead reckoning is what happens when you are not connected to a positioning device (such as a GPS) or when the positioning device fails.

Depth Sounder - An electronic depth-finding instrument, measuring the time a sound wave takes to go from the vessel to the bottom and return, then displaying the result in feet, fathoms, or metres.

Devices - Devices that are attached to the computer. These devices include ARPA, GPS, GYRO, AIS Receiver, Anemometer, AutoPilot and Depth Sounder.

GPS - Global Positioning System. A navigational system using satellite signals to determine the location of a receiver on or above the earth's surface.

GPS Antenna Offset - Location of the GPS antenna relatvie to the bow and centreline of the ship. This offset affects how the ship is displayed. By default, the offset is set to 0,0 (the bow) and the vessel is drawn so that the bow is positioned at the location received by the positioning device.

Gyrocompass - A compass which finds true north by using a fast spinning wheel and friction forces in order to exploit the rotation of the earth.

HDOP - Abbreviation for Horizontal Dilution of Precision.

Horizontal Dilution of Precision -A GPS term used in to describe the quality of a GPS signal.

Heading - The direction in which a vessel is pointed at any given moment. Heading may be relative to true north (true heading) or magnetic north (magnetic heading).

Location - A Location is a GeoName, Marina Name, or Photograph that can be placed onto charts like a Marker, but carries additional information.

Layer - A collection of all objects of a specific type which can be enabled or disabled for visibility in the Main Chart View. The layers in BoatCruiser are Raster Charts, Vector Charts, Routes, Markers, Zones, Trajectories, Annotations, Tide / Current Stations.

Leg - A straight line connecting two Waypoints.

Magnetic Declination - see Magnetic Variation

Magnetic Deviation - The amount by which a ship's magnetic compass needle points to one side or the other of magnetic north. Iron, steel, magnets and DC currents in wires cause the compass to vary by different amounts on different headings.

Magnetic Variance - see Magnetic Variation

Magnetic Variation - The angle between magnetic north and true north. Variation is considered positive east of true north and negative when west.

Main Chart View - The main area of the screen where you can enter routes, markers, annotations etc.

Main Toolbar - The area where many of the program's functions can be accessed.

Marker - A defined point within the program that can have an associated description.

Multiple Chart Mode - In multiple chart mode there is no opening and closing of charts, all charts are automatically displayed. (When charts are displayed is based upon the current Zoom factor and the area shown in the Main chart view.) When a chart is not displayed, its outline (shown in magenta) is still drawn on the world chart, in which case you can zoom in until the chart is displayed.

NMEA-0183 - The NMEA 0183 Interface Standard defines electrical signal requirements, data transmission protocol and time, and specific sentence formats for a 4800-baud serial data bus. For more information please proceed to www.nmea.org

NSO - NavSim's proprietary file format. Objects such as Routes, Trajectories, Markers and Annotations can be exported to a file for purposes of information sharing. Such a file with the extension .nso is a proprietary file format and can contain any combination and number of the

above mentioned Object(s). Any number of NavSim program users can export and import such files for transporting data and for information sharing purposes.

Radar - Parallel Indexing (Note: NavCrusier PRO only) - is meant to emulate the process of parallel indexing on some radar systems. For a detailed explanation please see Radar-Parallel Indexing.

Route - There are many ways to get from point A to point B. The fastest way would be a straight line, if there were no obstacles in the way. It is likely that two people leaving the same location heading for the same destination would take different paths. The path from point A to point B is known as a Route. A Route is represented by series of points (called Waypoints) connected by straight lines (known as Legs.)

S57 - S-57 ENC (Electronic Nautical Charts) are vector-based charts. S-57 charts are comprised of data of two sorts - spatial (location information about real world entities) and feature (descriptive information about real world entities). Data in an S-57 data set (chart) is organized in objects. Spatial objects, e.g., node, edge, face, possess coordinates which define its location on the earth's surface. Feature objects ,e.g., BOYCAR - buoy cardinal, COALNE - coast line, LNDARE - land area, contain attributes -- qualitative or quantitative characteristics of the object.

Single Chart Mode - In Single Chart Mode, only one chart at a time is displayed in the Main Chart View. The current chart can be selected using NavManager.

SOG - Abbreviation for speed over ground

Speed over ground - The actual speed of a vessel with respect to the seabed.

Swath - The area covered by a vessel while underway. If the vessel could follow a route perfectly, its swath would be an area along the route, the width of the vessel. The swath is drawn behind the vessel during playback of trakcs (if the option is on) as a series of vessels drawn at each recorded point.

Track - See trajectory

Trajectory - While following a route, the path taken may not be exactly the same as the route. (If sailing, wind will likely force the boat slightly off course.) The actual path taken is called a trajectory.

Tide Station - Tidal information is collected from a tidal station. Within the program, tidal stations report the tidal conditions for a specified day and time of day.

Waypoint - A position (latitude and longitude) which makes up part of a path or area, e.g., Route, Zone.

World Chart - The main default Chart that BoatCruiser uses as a starting point in the Main Chart

View.

XTE - Abbreviation for cross track error.

Zone - A region defined by a series of waypoints. A zone can be used, for example, to indicate a hazardous area on a chart, which should be avoided.

Zoom Factor - Zoom Factor is a number which indicates the amount of magnification of a chart. A chart displayed at a zoom factor of 400% appears to be four times larger than it actually is, whereas a chart displayed at a zoom factor of 25% appears four times smaller than it actually is. A chart displayed at a zoom factor of 100% would be shown in its actual size. Increasing the zoom factor is known as zooming in, and decreasing it is known as zooming out.

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Annotations

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• Creating a Text Annotation	• Changing Annotation Properties
• Creating a Freehand Annotation	• Resizing / Repositioning Text Annotations
• Creating a Circle Annotation	• Adding an Attachment
• Deleting an Annotation	

About Annotations

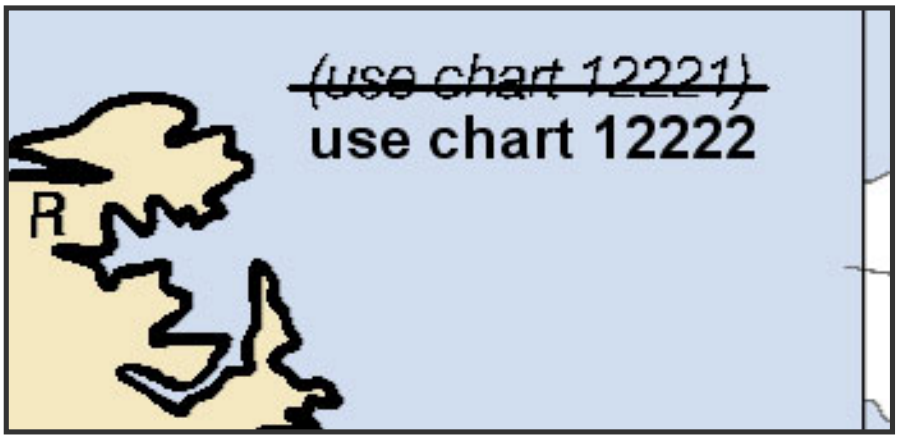
The program offers the ability to type or draw explanatory notes and/or illustrations that overlay selected areas.

Annotation Tools appear on the Main tool bar. Note that by taking the mouse pointer over the button, in one or two seconds a ToolTip will appear with a description of what that button does.

There are three types of Annotations available in the program:

- Text Annotations:

- Freehand Annotations:



- Circle Annotations:

Annotations are useful for such things as updating older Charts, adding quick notes, etc.

See Creating A Text Annotation, Creating A Freehand Annotation or Creating a Circle Annotation to learn how to create Annotations.

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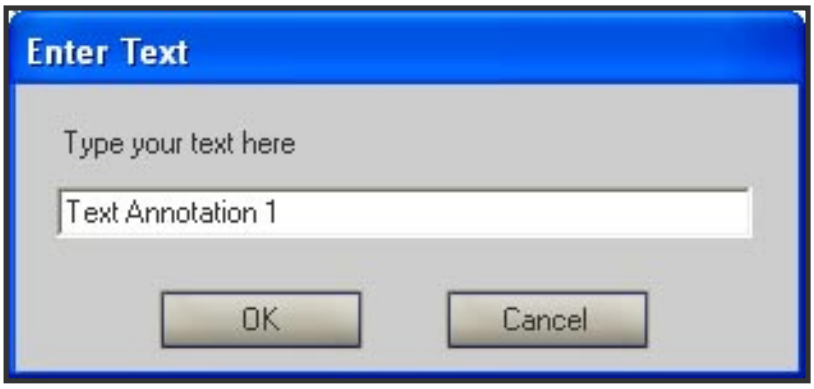
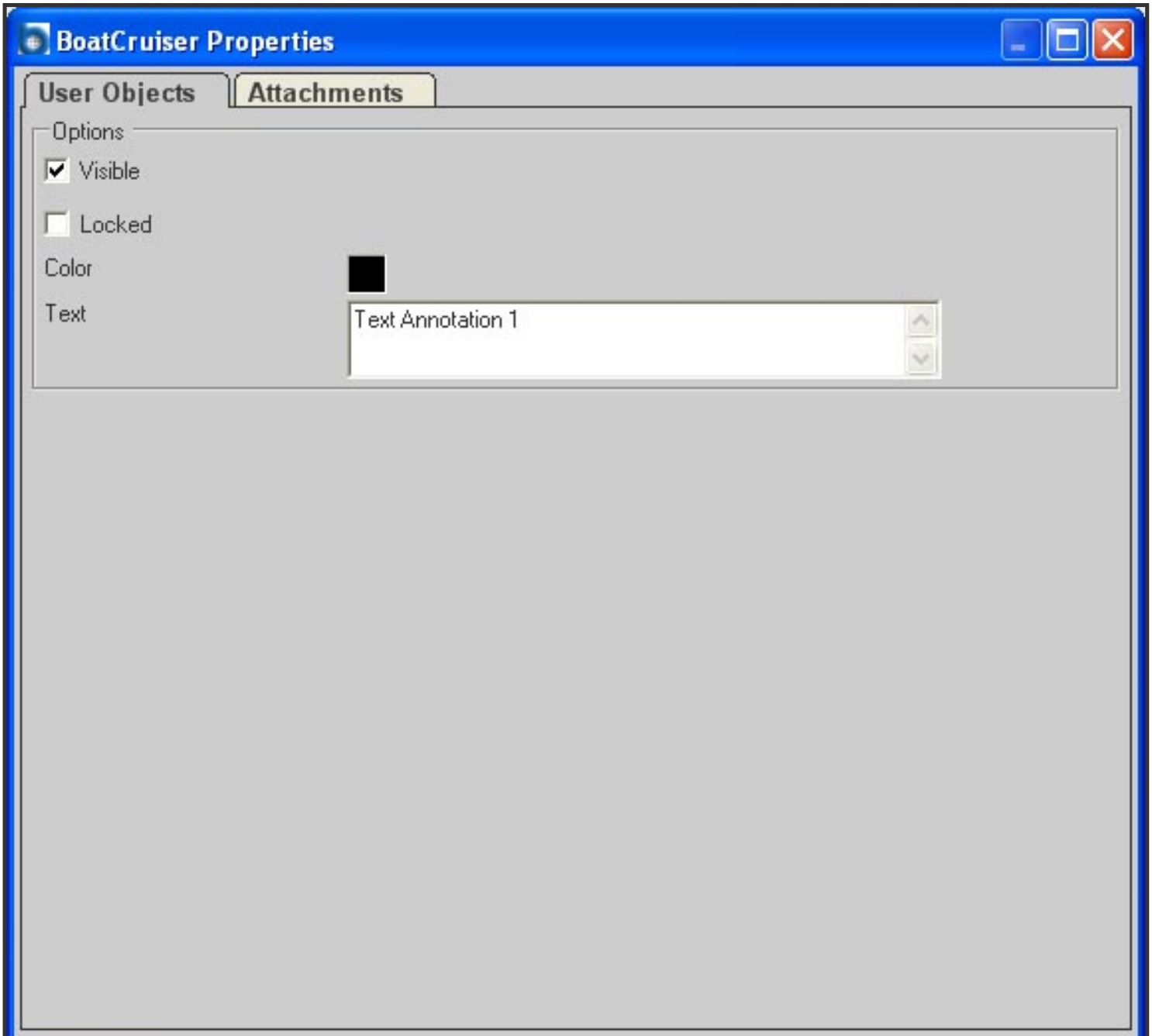
Creating A Text Annotation

To create a Text Annotation, select the Text Annotation icon T in the Main toolbar. This window appears:



Type the desired text, then click OK. The cursor turns to an arrow. Simply move the text by left-clicking, holding and dragging to the desired position on the Chart. Once the Annotation Properties have been filled in, Resizing and Repositioning Text Annotation is possible.

To change the text, click once to highlight the text box, then double-click inside the text box. A BoatCruiser / SailCruiser / NavCruiser Pro Properties window opens:



Click once inside the text window to position the cursor. Edit the text by highlighting and replacing text, or by backspacing and typing new text. Click OK and the new text appears in the textbox on the chart. To change the colour of the text, click on the colour box above the text, and choose the new colour. Click OK and the colour of the text is changed.

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Creating a Freehand Annotation

To create a Freehand Annotation, select the Freehand Annotation icon on the Main toolbar. Returning to the Main chart view, left-click and hold at the desired position on the Chart to begin the Annotation, then drag the cursor to create the illustration. Double-click to end the Annotation or drag to another area to extend the line. Always double-click to end an Annotation. Note that each time the Annotation icon is chosen and the left mouse button clicked, held, and released , a separate Freehand Annotation is created.

To change the colour of the Freehand Annotation, right-click on the annotation and choose Properties. This opens BoatCruiser / SailCruiser / NavCruiser PRO Properties where the colour or the line thickness can be changed.

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Creating a Circle Annotation

To create a Circle Annotation, select the Circle Annotation icon on the Main toolbar. Returning to the Main chart view, left-click and hold at the desired position on the Chart to begin the Annotation, then drag the cursor to create the desired illustration. Note that each time the Annotation icon is chosen and the left mouse button clicked, held, and released , a separate Circle Annotation is created.

To change the colour of the Circle Annotation, right-click on the Annotation border and choose Properties. This opens BoatCruiser / SailCruiser / NavCruiser PRO Properties where the colour or the line thickness can be changed.

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Deleting an Annotation

There are several ways to delete an Annotation:

- In the Main Chart View, right-click once over the text box and choose Delete from the given options.

The following window appears:

Click Yes and the text box is deleted from the chart.

- In NavManager, select the Text Annotation to be deleted and then click the delete button which is located in NavManager's toolbar.

Similarly, the delete operation can be performed for Freehand or Circle Annotations.

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Locking / Unlocking An Annotation

There are two ways to Lock/Unlock an Annotation:

- In NavManager, select the Annotation to be Locked or Unlocked, and click the Lock checkbox (in the Options section) to toggle between Locking or Unlocking.
- Alternatively, right-click on the Annotation to be Locked or Unlocked in the Main Chart View, then click the Lock / Unlock button on the menu which appears.

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Changing Annotation Properties

Annotation properties can be changed using NavManager.

There are two ways to access the Annotation properties window:

- In NavManager, select the Annotation to be edited from the explorer window.
- Alternatively, right-click on the Annotation to be edited in the Main Chart View, then click the Properties button in the menu which appears. Edit the Properties in the new window that opens .

Once NavManager is opened, it is possible to edit the information Properties, as well as change some of the options relative to the selected Object.

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Resizing / Repositioning Text Annotations

Text Annotations can be resized and repositioned to more appropriate sizes and locations.

To resize the text box, in the Main Chart View, left-click and hold one of the end Marker icons

, then drag the cursor away or towards the centre Marker to create the desired text box size. Click outside the text box area to hide the box outline and Marker icons when finished resizing. (Similarly, you can resize or reposition a Circle Annotation.) Note that you cannot perform this function for the Freehand Annotation.

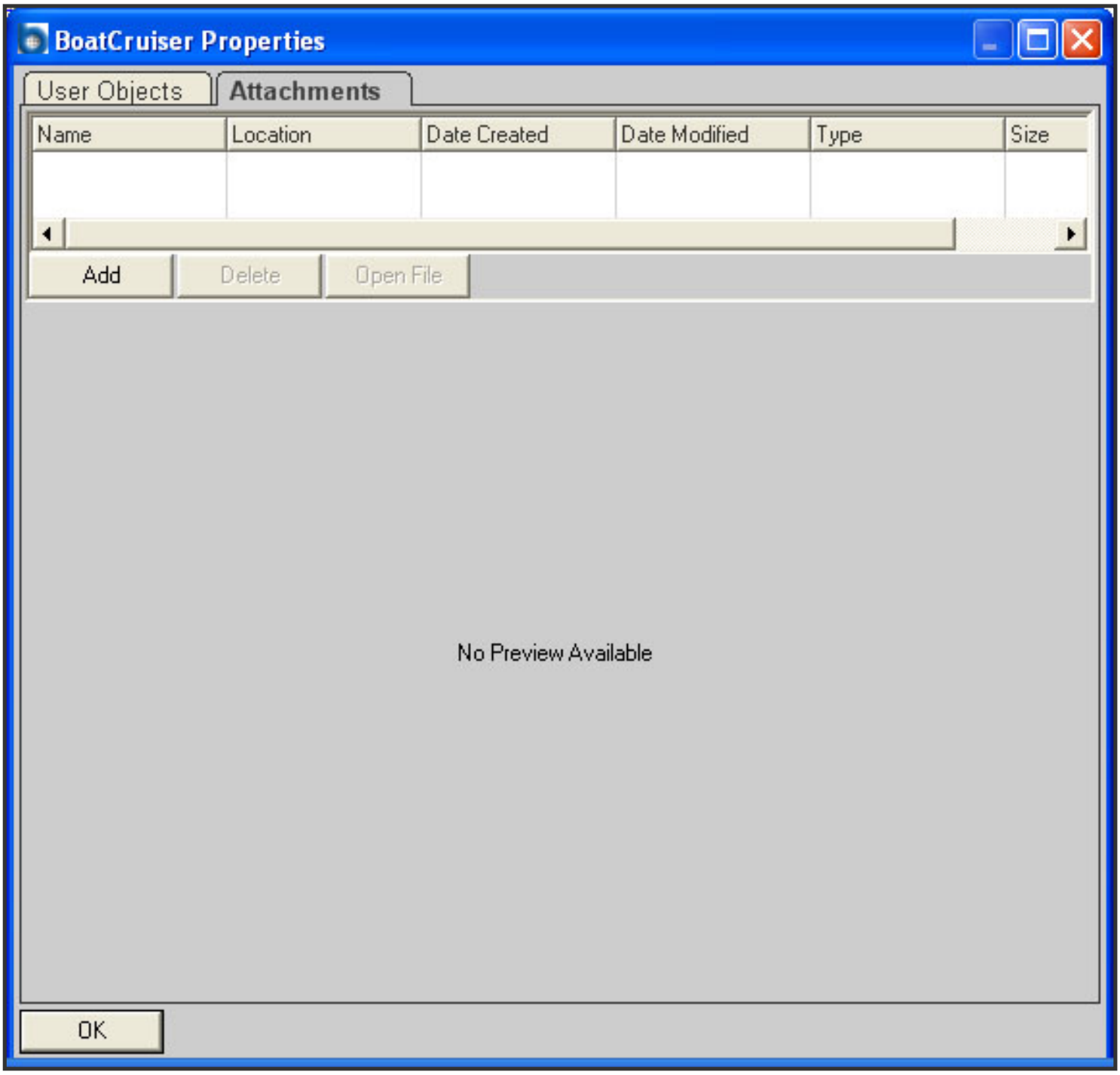
To reposition the box, left-click and hold the mouse over the middle Marker icon, then drag to move your text box to the desired position. (Similarly, you can resize or reposition a Circle Annotation.) Note that you cannot perform this function for the Freehand Annotation.

To rotate the text, left-click and hold one of the end Marker icons, then swing or drag the Marker to the desired positioning.

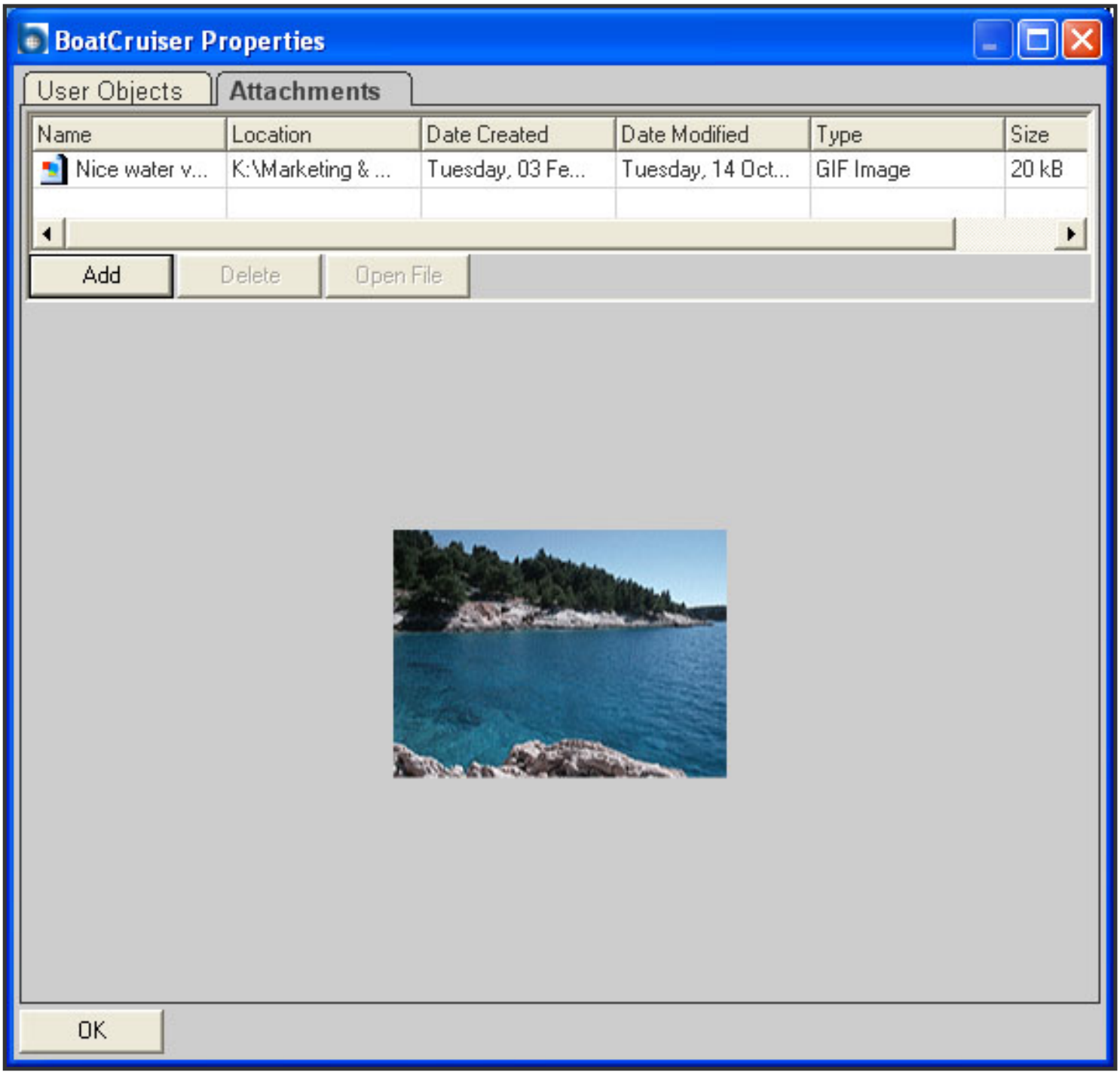
Adding an Attachment

There are two ways to add an attachment:

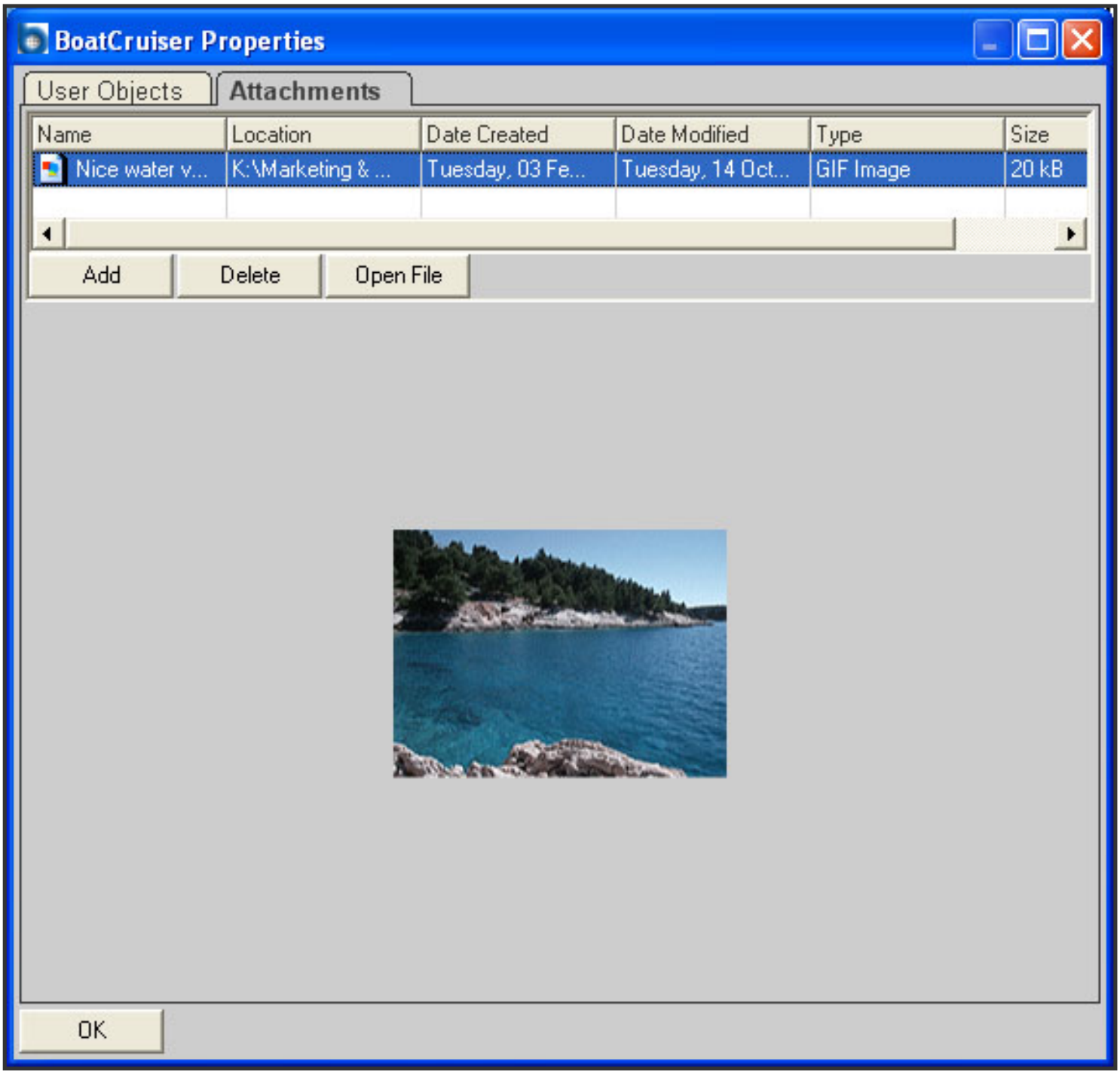
- One is to right-click on the Marker and choose Properties. When the window opens, choose the Attachments tab at the top.



Click on Add and browse to find the image or text file to attach. When the image is attached, a preview will open. Don't forget to click OK when finished.



Once text or an image has been added, it can be deleted by highlighting the selection on under the tool bar and clicking Delete. Don't forget to click OK when finished.



This function can also be performed by going into NavManager and choosing Text Annotations, Freehand Annotations or Circle Annotations, as the case may be, then highlight the Annotation and double-click. The same windows as above open and Attachments can be added or deleted as required. Don't forget to click OK when finished.

- The second way to add an Attachment is to drag a file or image from the desktop. Click on the text file or image and drag it from the desktop to the Annotation and drop on top of the Annotation. Delete any Attachment as described above.

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Main Toolbar

The main tool bar can be seen in the main interface for the program. The main toolbar area has the following options from left to right:

QuickStart Menu	Create Freehand Annotations	Home Marker
NavManager	Create Circle Annotations	Zoom Box
Print	Dynamic Range Bearing Line	Zoom Into Chart
Select Button	Clear Dynamic Range Bearing Line	Zoom Out Of Chart
Select Box	Distance Line	Follow Boat
Create Route	Range Circle	Man Overboard Marker
Create Marker	Parallel Index Line	Tilt Screen Up
Create Zone	Radar - Parallel Indexing Options	Reset Tilt Screen
Create Text Annotations	World View Chart	Tilt Screen Down
		Dead Reckoning

To be reminded of the function of any button, move the mouse cursor over any of the button and a tool tip will appear to provide the name of that button.

You can also customize the toolbar by adding, removing and moving toolbar buttons. Click here to find out how.

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Working With Markers

- About Markers
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- Changing Marker Icon
- Creating a Marker
- Moving a Marker
- Requesing Markers from GPS
- Deleting a Marker
- Changing Marker Properties
- Using Locations
- Exporting a Marker
- Locking / Unlocking a Marker
- Man Overboard Marker
- Hiding / Unhiding a Marker
- Setting Marker as Home
- Adding an Attachment

About Markers

The program has the convenient function of placing customized Markers at virtually any Location on any Chart. With a click of the mouse, identifiers such as Home Base, Lighthouses, Historic Sites, Buoys, Ports, Rocks, etc, can be placed on the Chart. The added option exists to create personalized Marker icons.

Marker Tools appear on the Main Tool Bar. Note that by taking the mouse pointer over the button, in one or two seconds a ToolTip will appear with a description of what that button does.

Any image, text, pdf or any other kind of document can be Attached to the selected Marker.

Creating a Marker

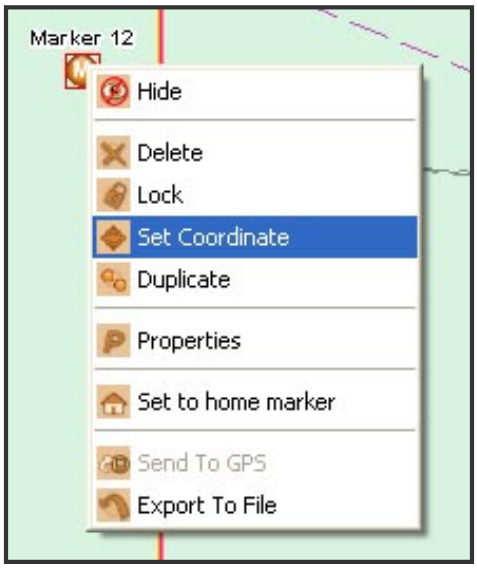
Creating a Marker using Mouse

To start creating a Marker, click the Create New Marker icon in the Main Toolbar. While moving the mouse, a Marker will move onscreen, along with the Marker's default name. Drag and drop the Marker to the desired position on the chart in the Main Chart View.

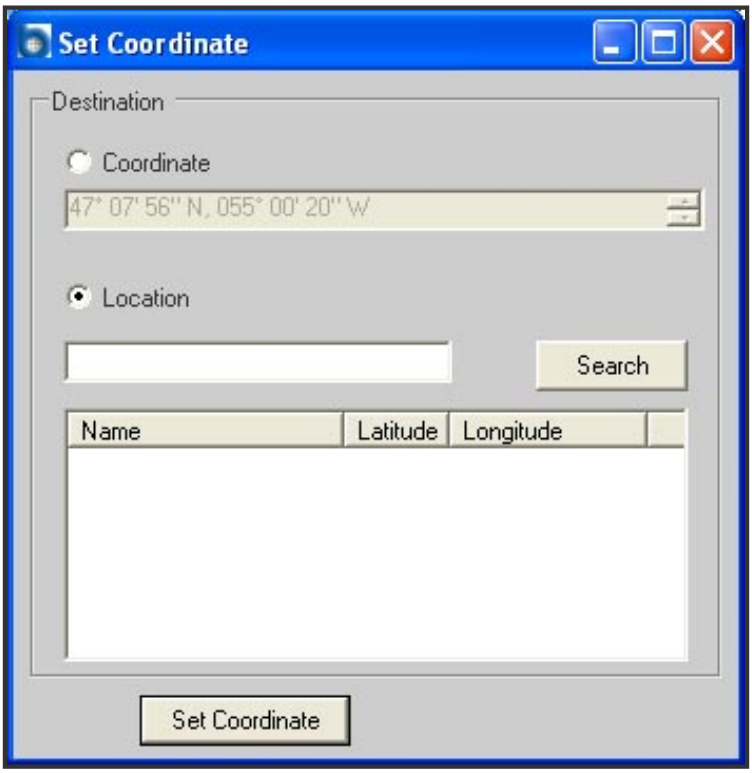
Note that if the Marker is to be added at a location not visible in the Main Chart View, first pan and zoom to the area required and then add the Marker there following the steps above.

Creating Marker using Coordinate Entry

First, create a Marker anywhere in the Main Chart View by using the mouse (see previous paragraph.)To specify the Marker's intended coordinate, right click on the newly created Marker and select Set Coordinate on the menu.



The following dialog box will appear. Type the exact coordinates for the Marker.



Once (new) coordinates are entered, the Marker shows at that location on screen in the Main Chart View.

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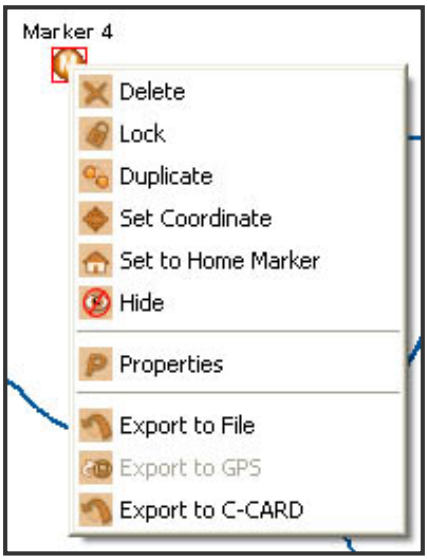
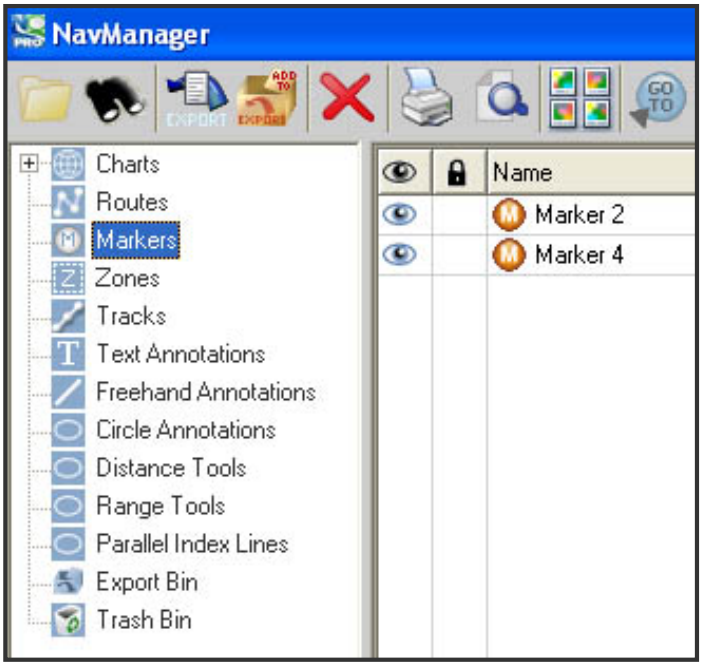
Deleting a Marker

There are two ways to delete a Marker.

- Right-click on the Marker to bring up the menu. Click on delete.



- In NavManager, choose Markers, select the Marker to be deleted and then click the delete button which is located at the top menu of NavManager.



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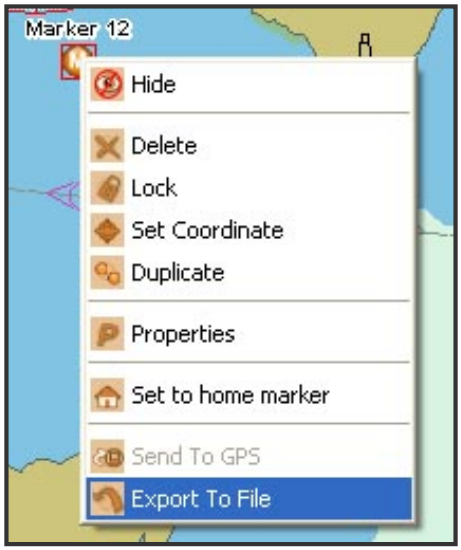
Exporting a Marker

Markers can be exported to GPS or to a file. To do so, right-click on the Marker to bring up the menu. If connected to a GPS, there is the option of clicking on Send to GPS or Export to File. If not connected to GPS, only Export to File will be highlighted and this will be the only choice. A NavSim Object file with the extension .nso will be created. This is a proprietary file format and can contain any combination and number of object(s). Any number of the program users can export and import such files for transporting data and for information-sharing purposes.



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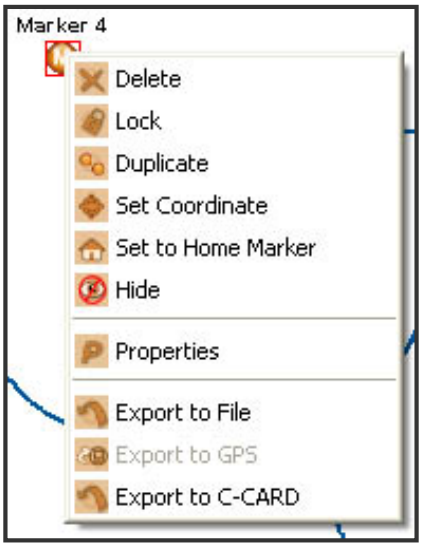
Hiding / Unhiding a Marker

Hiding a Marker

There are two ways to hide / unhide Markers:

- **Using the Mouse**

  Right-click on the Marker to bring up the menu in the Main Chart View. Click on Hide or Unhide, as the case may be.

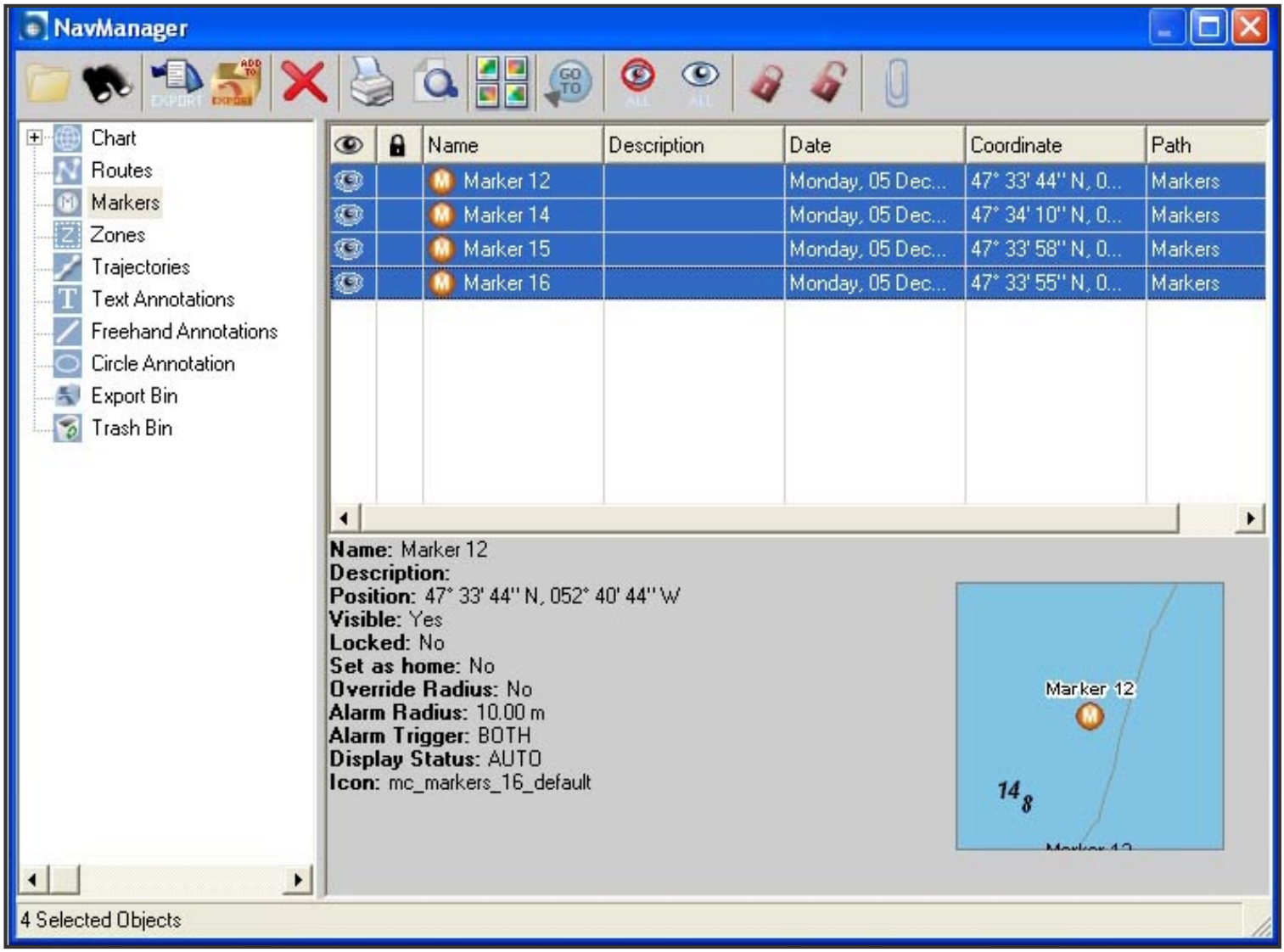


- **Using NavManager**

  Make sure that the Marker of interest is selected in NavManager and use either the Hide or Unhide icon .

Unhiding All Markers

Using the NavManager highlight the markers to unhide. Click on the Unhide icon on the menu at the top .



Unhiding Specific Markers

Make sure that the Marker of interest is highlighted in NavManager, and click on the Unhide icon on the menu at the top .

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Duplicating a Marker

Right-click on the Marker to bring up the menu. Click on Duplicate. The duplicated Marker will be perfectly overlaid on the original Marker. Either of the Markers can be moved at any time.

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Moving a Marker

A Marker can be moved to a new position at any time. To do so, click on the Marker and drag to the desired location. Or, use set new coordinates.

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Changing Marker Properties

Marker properties can be changed by two methods:

- Right-click on the marker, choose Properties and make edits directly in the dialogue box (don't forget to click Apply and OK when done)
- Use NavManager. Change the name of the Marker, Lock or Unlock the Marker, Set the Marker as Home, make a duplicate of the Marker, change the Marker icon, turn alarms on or off, make the Marker visible or not visible (the same as Hiding/Unhiding) or set the Alarm Radius or add a description. Ways of doings these things are described below.

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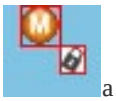
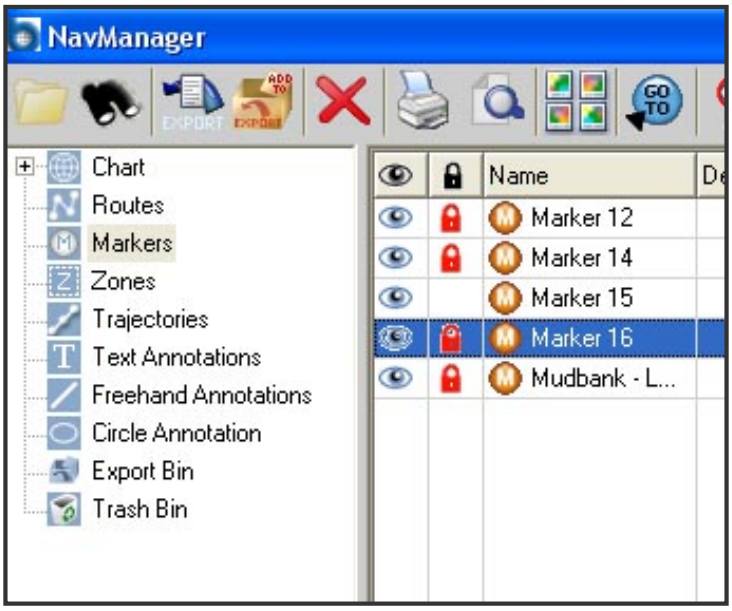
Locking / Unlocking a Marker

After a Marker has been selected, right-click on the Marker and click on Lock in the menu which appears. This will switch the locked state of the marker. When the Marker is locked, a small padlock icon  appears next to the Marker icon upon returning to the Main Chart View. To unlock the Marker, right-click, choose Unlock. This action unlocks this Marker and removes the padlock icon. Similarly, in NavManager you can perform the same task. Simply choose Markers on the menu which appears on the left, highlight the Marker(s) to lock (or unlock) and click in the box under the padlock icon.



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Setting Marker as Home

Note that only one Marker at a time can be a Home Marker.

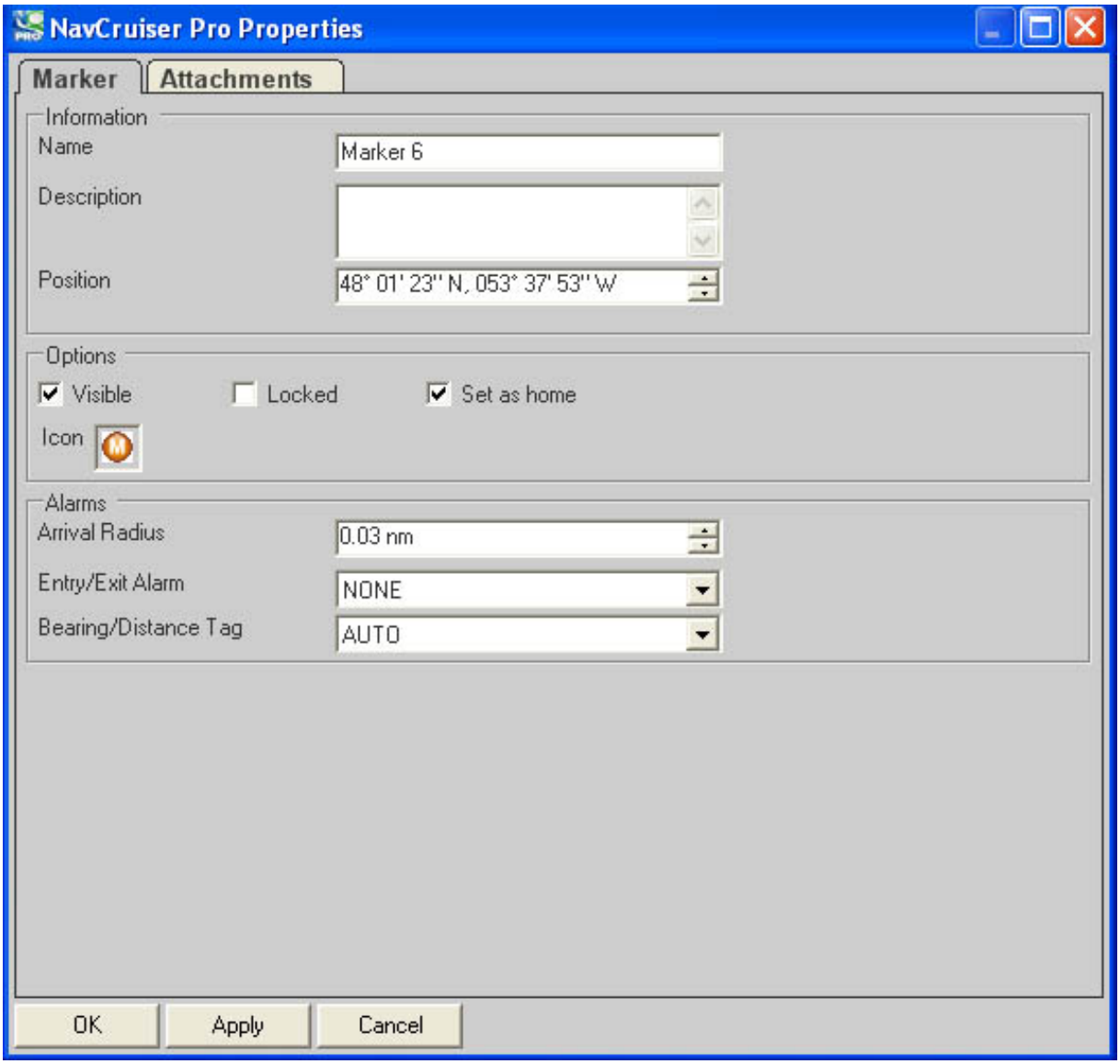
There are two ways to set a Marker as a Home Marker:

- One is to right-click on the Marker and choose Set to Home Marker:

The Marker icon will change to the Home Marker icon .

- The other way to set the Marker as Home Marker is to right-click on the Marker and choose Properties. On the

dialogue box that opens, click on Set as Home. Don't forget to click Apply and OK.



Removing "Home" Status from a Marker

A Marker that was set to be the "Home" can be reverted to a regular Marker by doing one of these two actions:

- Make another marker the home marker
- Right-click on the Marker and choose Properties. On the dialogue box that opens, unclick Set as Home.

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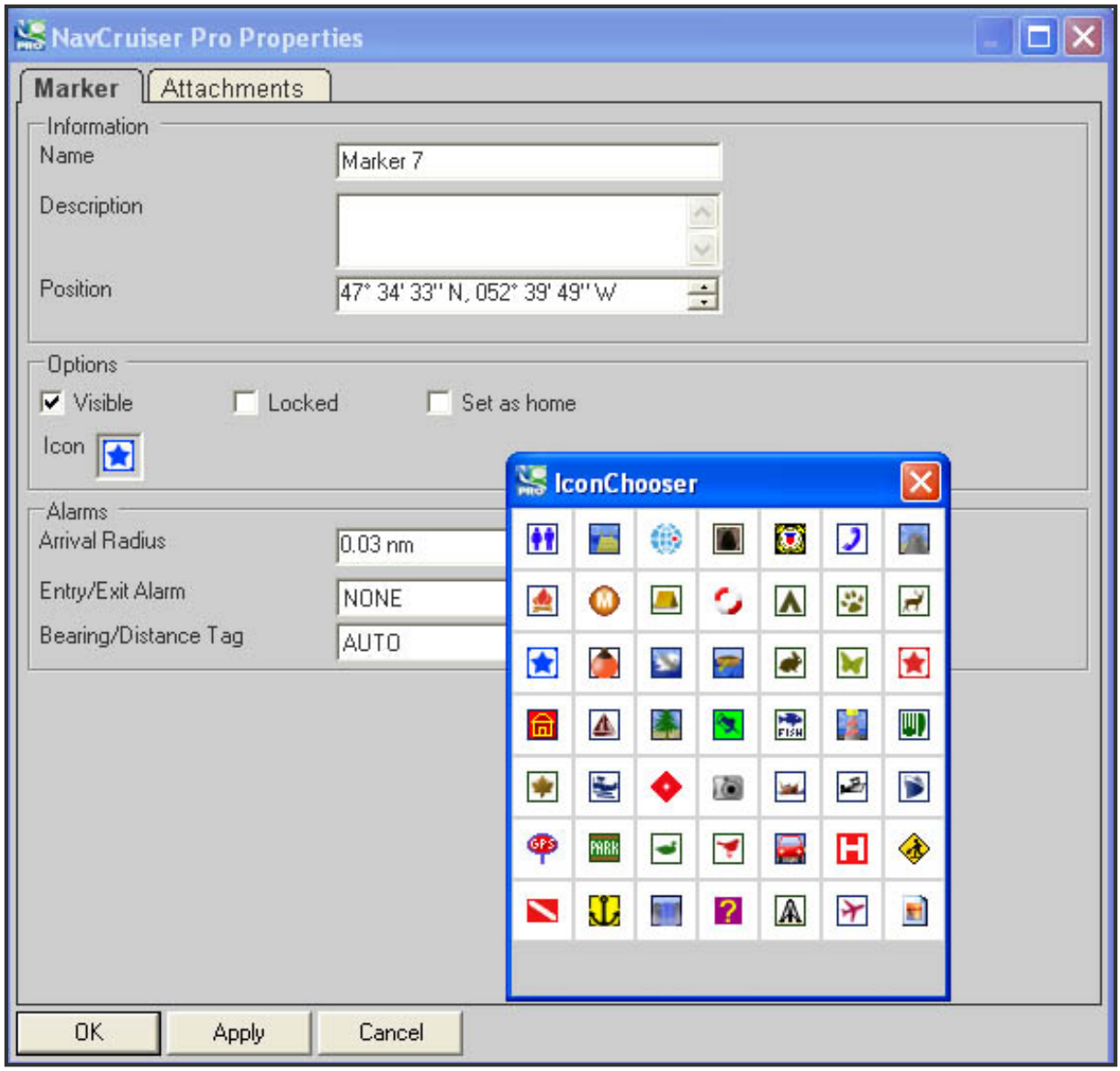
Changing Marker Icon

Right-click on the chosen Marker. Choose Properties from the menu. Click on Icon and the following icon chooser will appear:



Select an icon from any of those presented. Remember to click Apply and OK in the Properties window when you're done. Your Marker icon changes accordingly in the Main Chart View. If deciding against changing the icon, simply press Cancel.

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Requesting Markers from GPS

Please refer to the GPS Help.

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Using Locations

A Location is a GeoName, Marina Name, or Photograph that can be placed onto charts like a Marker, but carries additional information. Please refer to the Locations Help for more information.

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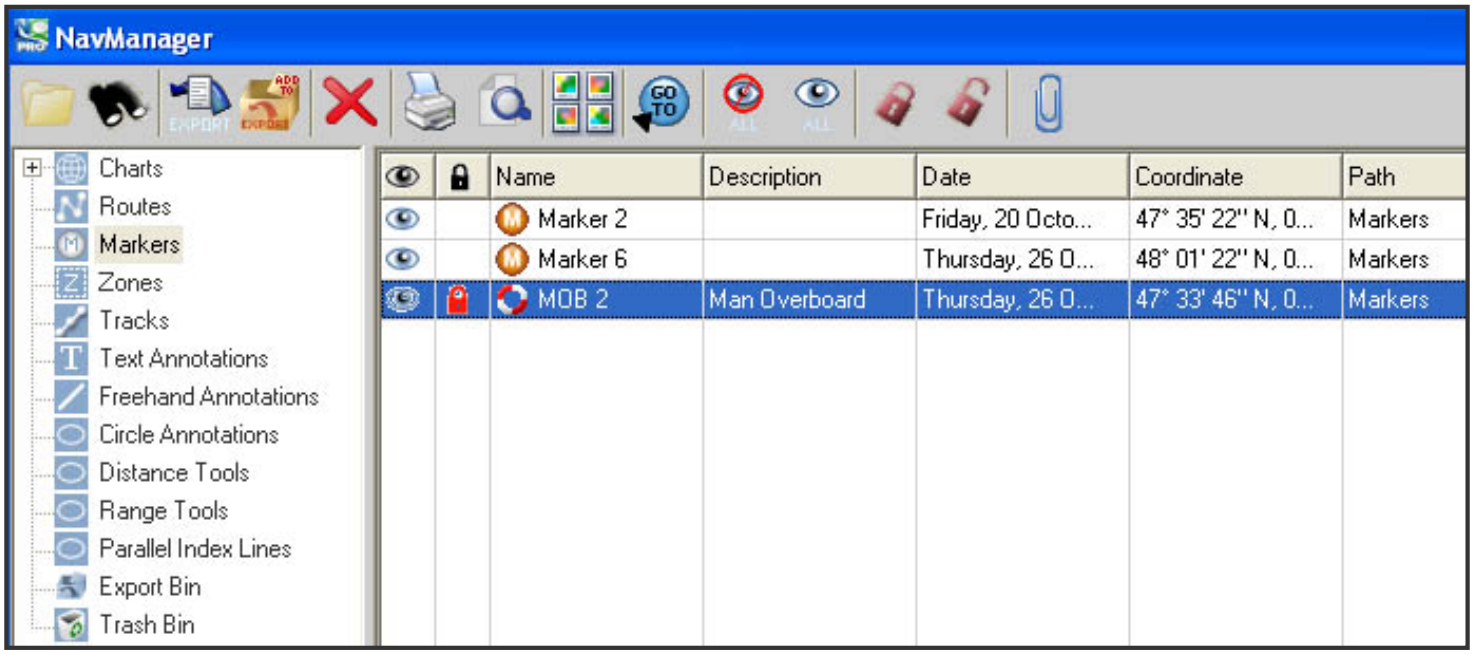
Man Overboard Marker

There is a special Marker that can be placed while navigating with the GPS called the Man Overboard Marker (MOB). This Marker is used in emergency situations in the event that an individual falls overboard. It is set in place simply by clicking the icon in the main toolbar. This leaves a Marker underneath the Boat at the location when you activated the Man Overboard button. Note that in order to see the Marker, the Boat (or Vessel, in NC PRO) must be visible on the screen. More than one Man Overboard marker can be placed at any time and the appearance of the Marker can be seen below in the preview window.



By default, the Man Overboard Marker is Locked. It can be Unlocked just like any other type of Marker.

The default parameters are as follows.

- **Information:**
  - Name: MOB
  - Description: Man Overboard
  - Date Created: The date and time when you activated this Man Overboard Marker.
  - Coordinate: The GPS location where you activated this Man Overboard Marker.
  - Path: This is the (Windows) path to which the folder belongs.

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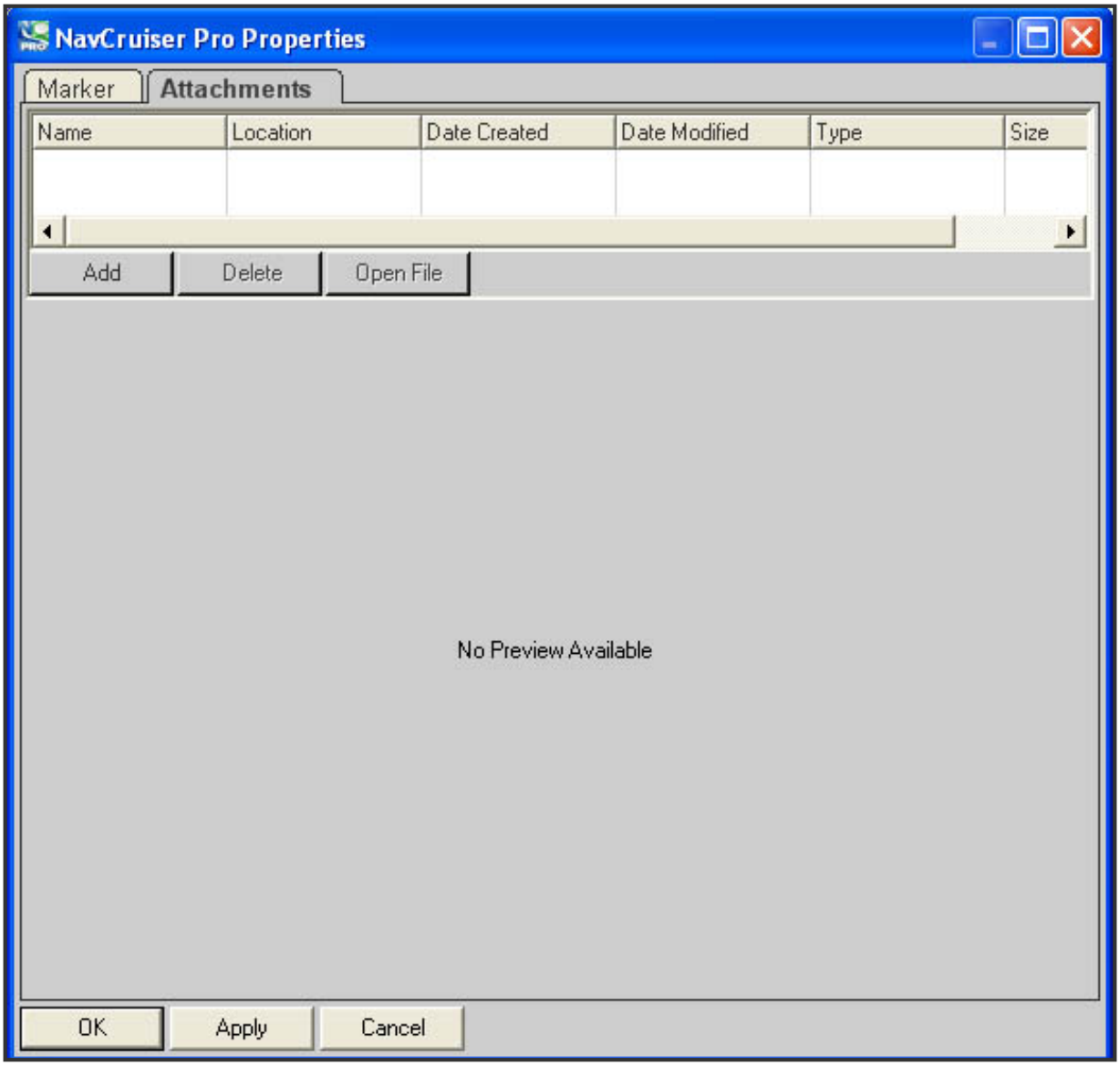
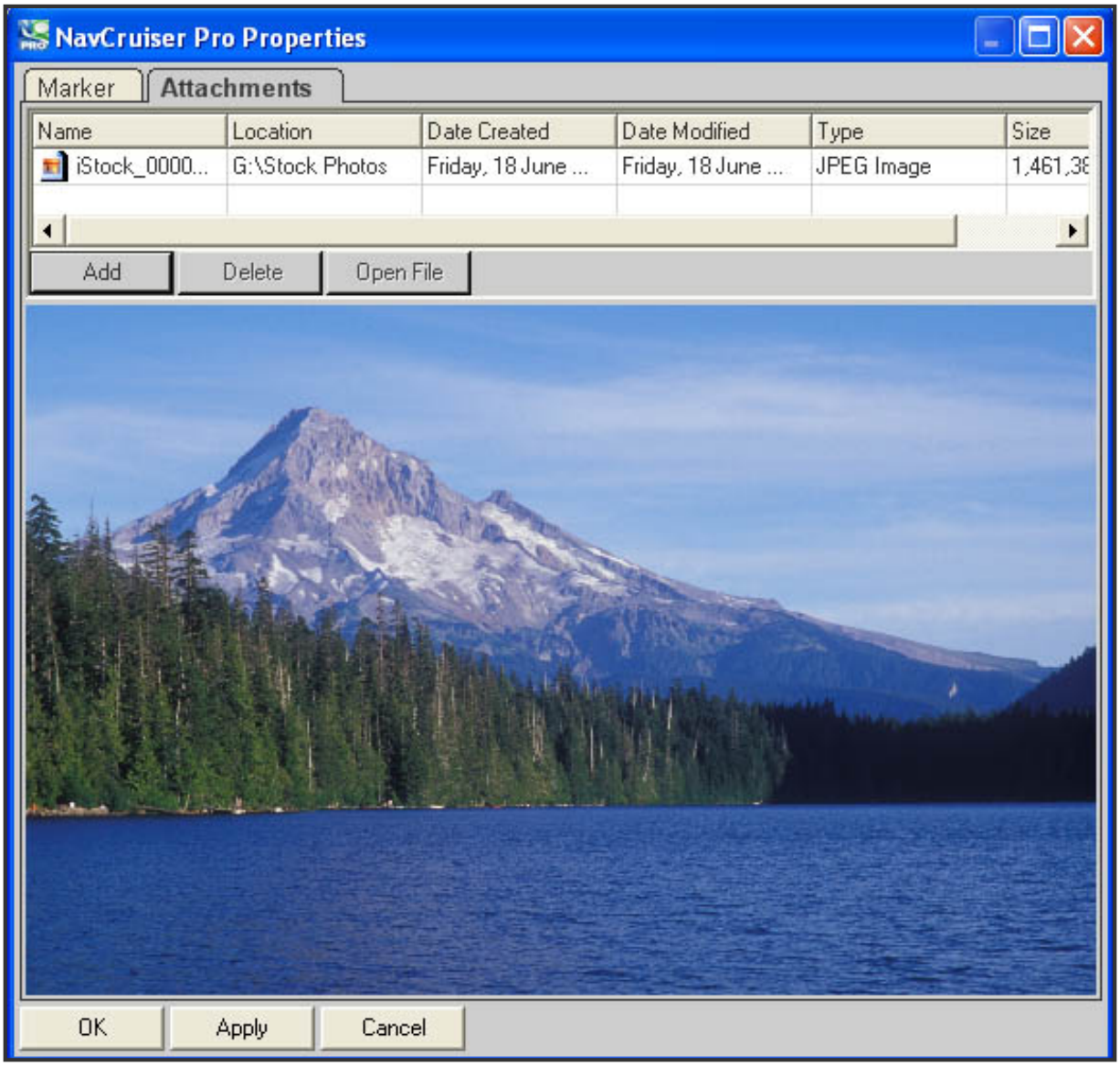
Adding An Attachment

There are two ways to add an attachment:

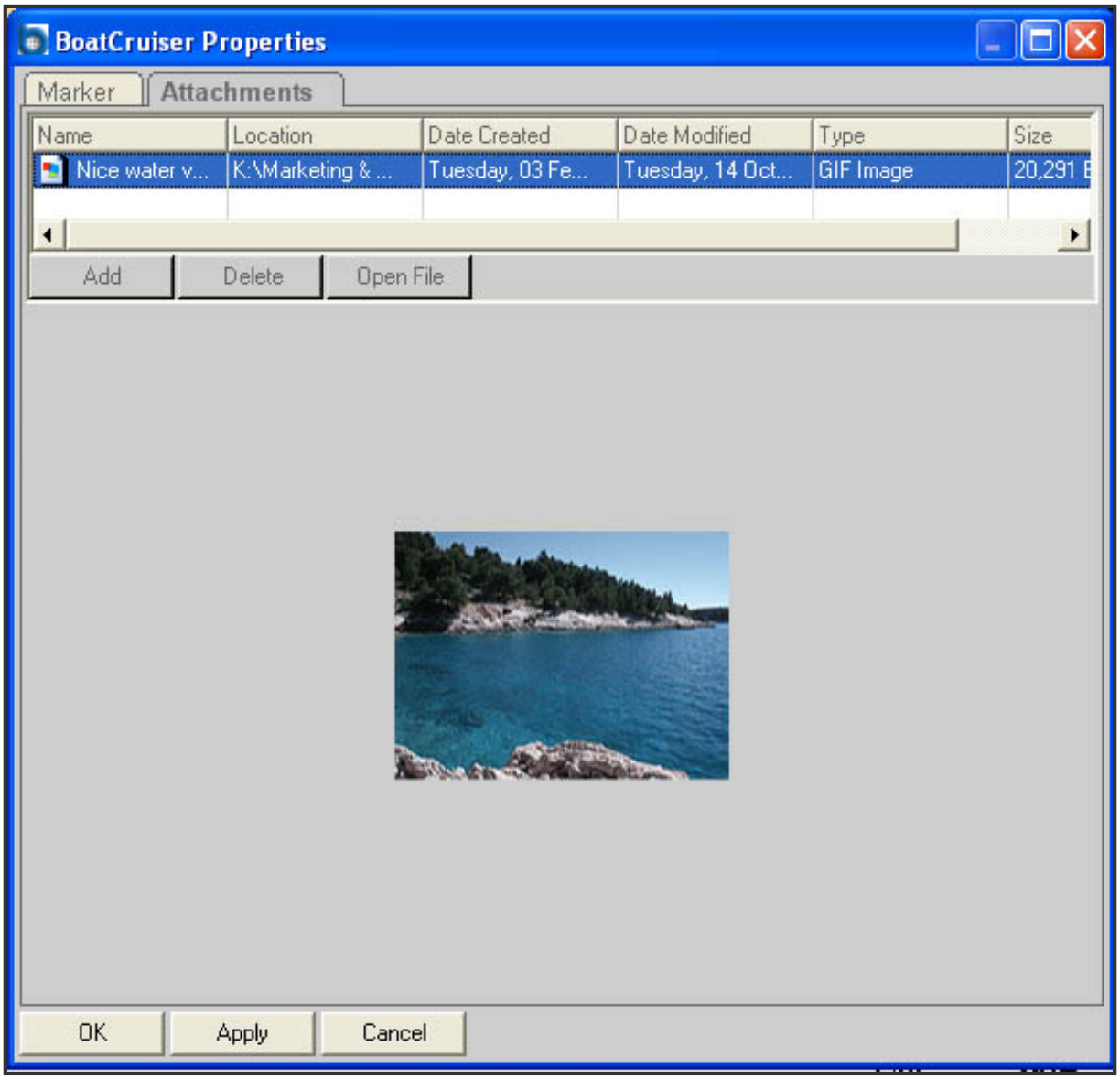
One is to right-click on the Marker and choose Properties.When the window opens, choose the Attachments tab at the top.



Click on Add and browse to find the image or text file to attach. When the image is attached, a preview will open. Don't forget to click Apply and OK when finished.



Once a text or image has been added, it can be deleted by highlighting the selection under the tool bar and clicking Delete. Don't forget to click Apply and OK when finished.



This function can also be performed by going into NavManager and choosing Markers, then highlight the Marker and double-click. The same windows as above open and attachments can be added or deleted as required. Don't forget to click Apply and OK when finished.

- The second way to add an attachment is to drag a file or image into the Main Chart View. Click on the text file or image and drag it from the desktop to the Marker and drop on top of the Marker. Delete any attachment as described above.

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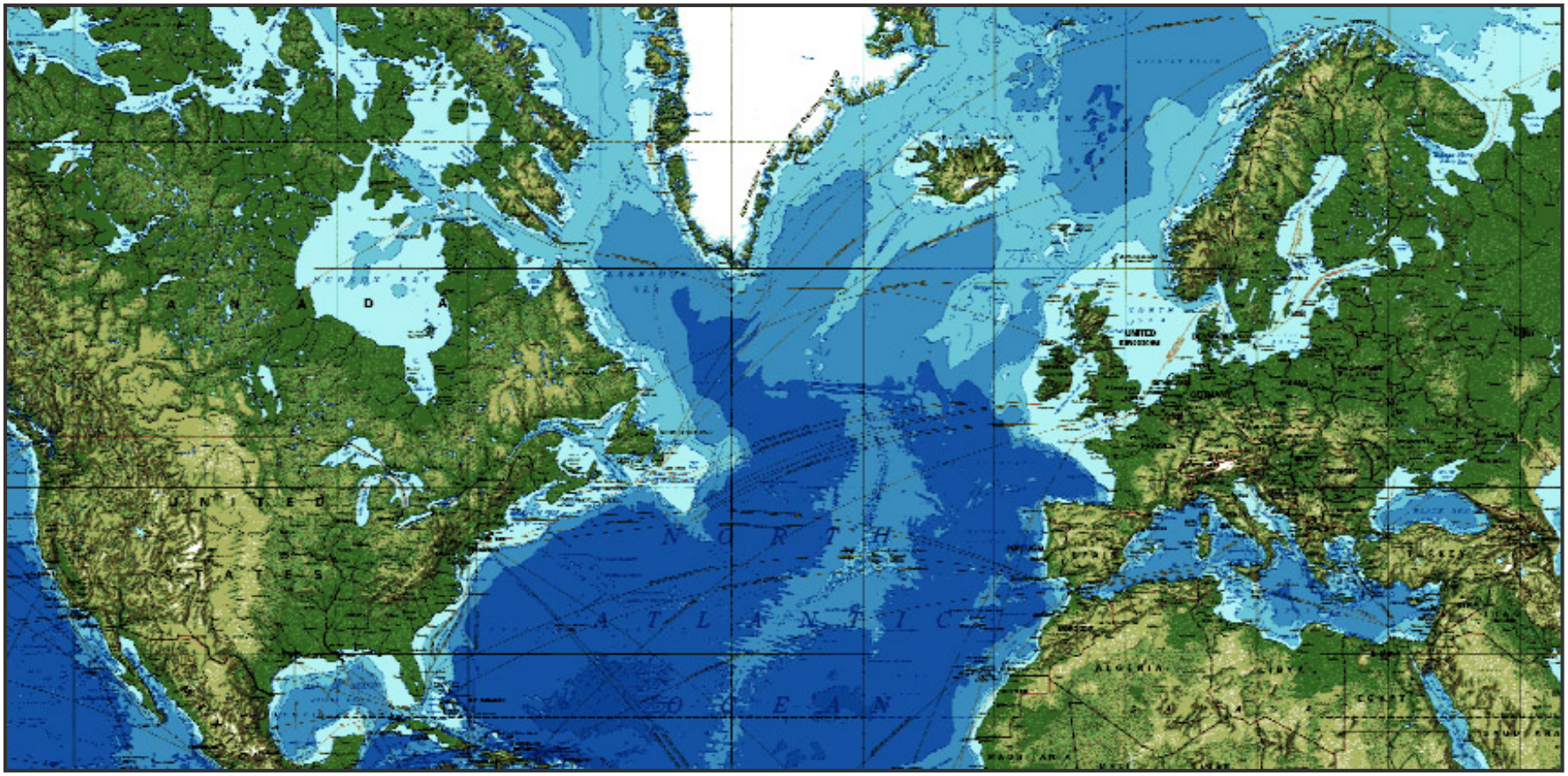
Main Chart View

- About
- C-Map Main Chart View
- Screen Layout
- Modes

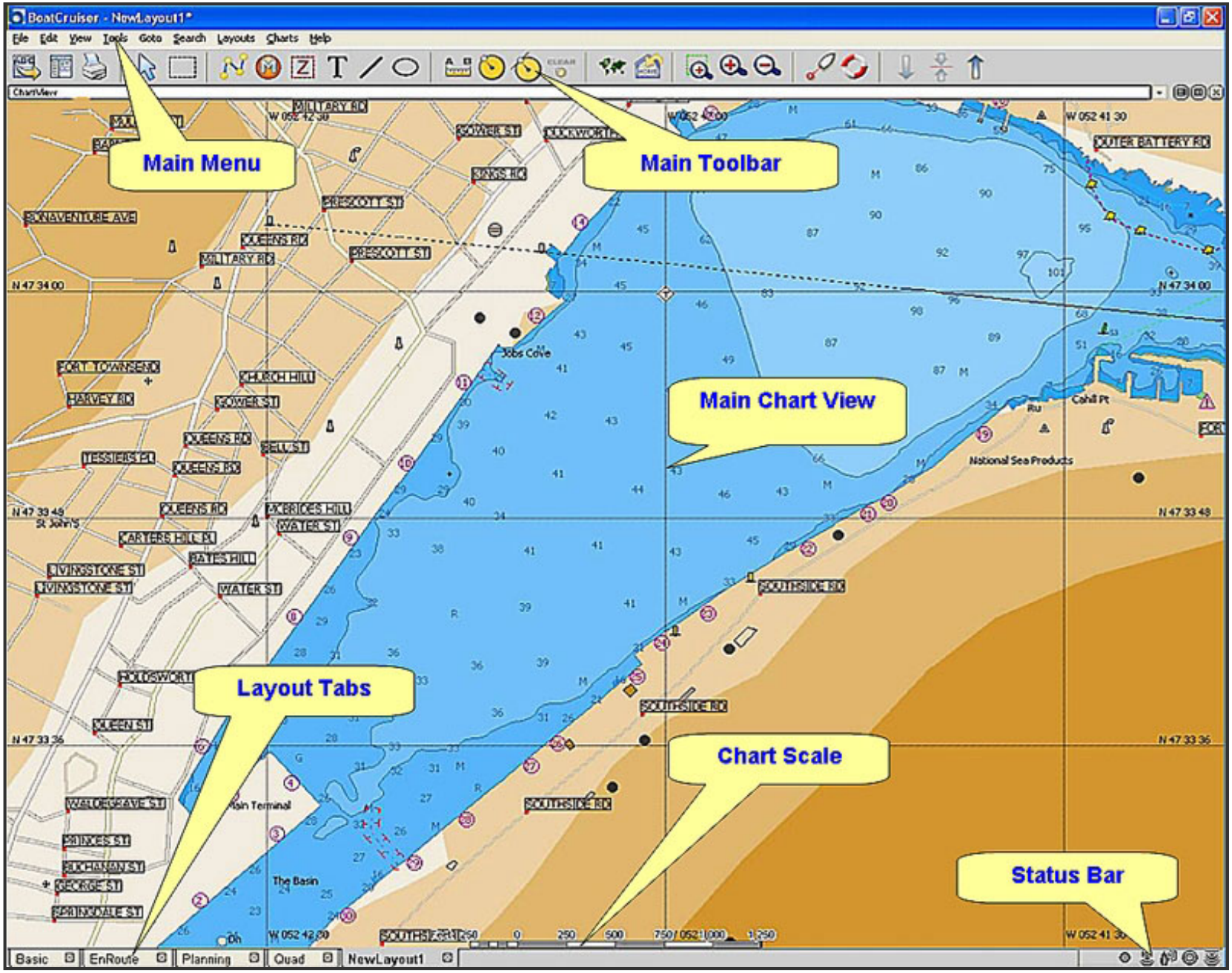
About

Most actions performed in the program will involve the Main Chart View. The Main Chart View will contain the charting and navigational information required while using the program. Initially the Main Chart View will be loaded with the World Chart which can be seen below:



Screen Layout

This is the Main Screen Layout View for the program. More information is available on Layouts.



C-Map Main Chart View

This program has the ability to display C-Map charts. The basic World Chart View when in C-Map mode will look like this:

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Modes

Actions carried out in the Main Chart View in response to mouse actions (moving, clicking, etc.) depend on which mode is in use at the time. The modes for the program are:

QuickStart Menu	Create Freehand Annotations	Home Marker
NavManager	Create Circle Annotations	Zoom Box
Print	**Dynamic Range Bearing Line**	Zoom Into Chart
Select Button	**Clear Dynamic Range Bearing Line**	Zoom Out Of Chart
Select Box	Distance Line	Follow Boat
Create Route	Range Circle	Man Overboard Marker
Create Marker	Parallel Index Line	Tilt Screen Up
Create Zone	**Radar - Parallel Indexing Options**	Reset Tilt Screen
Create Text Annotations	World View Chart	Tilt Screen Down

The current mode can be changed by clicking on one of the above buttons in the Main Toolbar.

If none of the buttons above are pressed you can set the screen to the default mode by clicking the Selector/Reset Arrow button in the Main Toolbar.

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NavManager

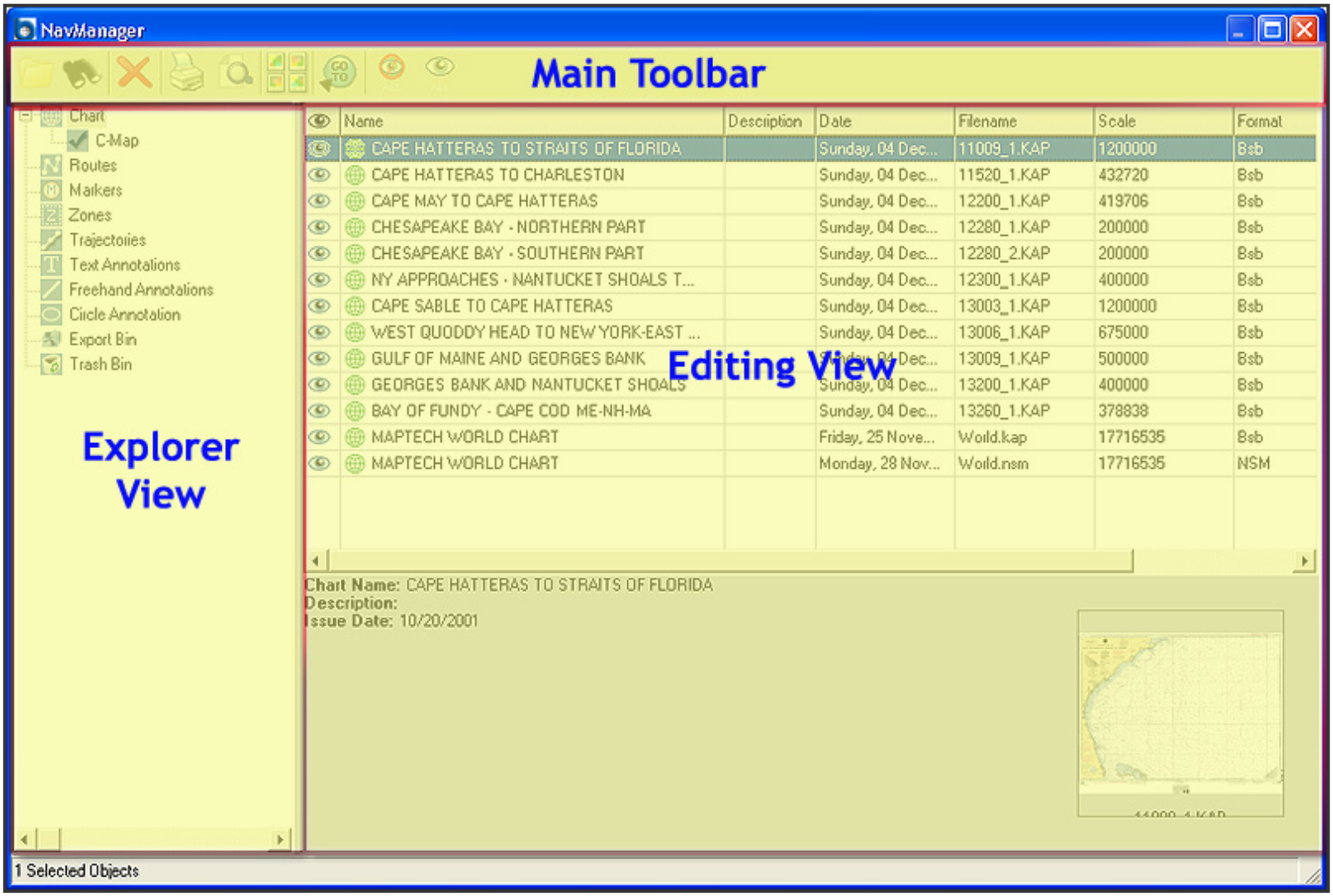
- About NavManager
- Managing Charts
- Managing Routes
- Managing Markers
- Managing Zones
- Managing Trajectories
- Managing Annotations
- Exporting Objects
- Trash Bin

About NavManager

NavManager is the centre of all activities for NavSim's products. It is used to display and modify properties of all Objects in the program including all imported Charts, Routes, Markers, Zones, Trajectories and Annotations.

To open NavManager, click the NavManager button in the Main Toolbar, or select NavManager in the Tools menu.

NavManager Layout



NavManager is comprised of three sections: **NavManager's Toolbar**; the **Explorer View** which displays all Program Objects; and the **Editing View** which shows detailed informationrmation about the currently selected Object in the Explorer View and allows editing of the current Object.

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NavManager Toolbar

The toolbar allows easy access to the actions associated with each type of Objects. Different actions are applicable for different Objects along with some common ones like view, print, delete, etc.

The buttons on the toolbar change according to the selection made from the Explorer view. For example, if Chart is selected on the Explorer view, the buttons on the toolbar will reflect all possible actions that can be accomplished with Charts. Similarly, if Markers is selected on the Explorer view, the toolbar changes to show buttons that are related to Markers.

Read the following sections of this document to find out more about the actions associated with each type of Object within the program and how they can be managed using the toolbar buttons.

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Managing Charts

Click on Charts in the Explorer view and a list of all the Charts installed is displayed in the Editing view. Clicking on any of the Charts displays more detailed Chart information along with a thumbnail image of the selected Chart in the Editing view. In the Explorer view, more Chart information is displayed such as the hide/unhide status, name, description, date imported, actual filename, scale, and Chart format.

A icon appears next to the Chart name if it is visible. The hidden/visible mode can be toggled by simply clicking on this icon.

The buttons in the main toolbar help accomplish all the tasks associated with the selected Charts.

- - The **Folders View** button displays the various BoatCruiser Objects (Charts, Routes, Markers, etc.) in the Explorer view of the NavManager. The folder list is used to navigate through the installed Charts.
- - The **Search** button is used to bring up the search criteria in the Explorer view of the NavManager. To revert to the folders view simply click on the **Folders View** button.
- - The **Delete** button deletes the Charts selected in the Editing view. The Charts are not deleted permanently; they are sent to the Trash Bin from where they can be restored if the Charts(s) are deleted by mistake.
- - The **Print** button prints the selected Charts.
- - The **Print Preview** button brings up the program preview of the Chart selection as they look like when printed.
- - The **Thumbnail** button displays all the Charts at a glance using a thumbnail view for each Chart.
- - The **Goto** button displays the selected Chart in the main Chart view of the program. This is extremely useful when tit is desired to load up a Chart quickly instead of panning and then zooming onto the right zoom level in order to view the Chart.

- - The **Hide** button hides the selected Chart(s) from the main Chart view of the program. Once hidden, the Charts are not visible in the main Chart view. They can easily be made visible again by clicking on the **UnHide** button. Charts can also be hidden by clicking on the icon in the **Hide/Unhide** column in the Editing view.
- - The **UnHide** button makes hidden Charts visible again. All visible Charts will have a icon next to it.

Some of the above-mentioned tasks can easily be accomplished by using the Context Menu.

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Managing Routes

Click on Routes in the Explorer view and a list of all the Routes created is displayed in the Editing view. Clicking on any of the Routes displays more detailed Route information along with a thumbnail image of the selected Route in the Editing view. In the Explorer view, more Route information is displayed such as the hide/unhide status, lock/unlock status, name, description and date created.

A icon appears next to the Route name if it is visible. The hidden/visible mode can be toggled by simply clicking on this icon. Similarly, Routes can also be made to toggle between locked and unlocked state by simply clicking on the icon next to the Chart name.

The buttons in the main toolbar help accomplish all the tasks associated with the selected Routes.

- - The **Folders View** button displays the various BoatCruiser Objects (Charts, Routes, Markers, etc.) in the Explorer view of the NavManager. The folder list is used to navigate through all the Routes.
- - The **Delete** button deletes the Route(s) selected in the Editing view. The Routes are not deleted permanently; they are sent to the Trash Bin from where they can be restored if the Route(s) are deleted by mistake..
- - The **Export** button displays a prompt to save the selected Route(s) as a **.nso** NavSim Object file. This **nso** file can be used for sharing Objects amongst the user community or for transfer of data from one location to another.
- - The **Add to Export Bin** button exports a multitude of different Objects to a file as explained in the **Exp**orting Object section of this document.
- - The **Search** button is used to bring up the search criteria in the Explorer view of the NavManager. To revert to the folders view simply click on the **Folders View** button.
- - The **Print** button prints the Route(s) overlaid on the Chartview.
- - The **Print Preview** button displays a preview of the selected Route(s) with the Chart in the background as it looks like in print.
- - The **Thumbnail** button displays all the Routes at a glance using a thumbnail view for each Route.
- - The **Goto** button displays the selected Route in the main Chart view of the program. This is extremely useful when it is desired to view a Route quickly instead of panning around and zooming in order to view the Route.
- - The **Hide** button hides the selected Route(s) from the main Chart view of the program. Once hidden, the

Routes are not visible in the main Chart view. They can easily be made visible again by clicking on the **UnHide** button. Routes can also be hidden by clicking on the icon in the **Hide/Unhide** column in the Editing view.

- - The **UnHide** button is used to make hidden Routes visible again. All visible Routes have a icon next to it.
- - The **Lock** button locks the position of the selected Route(s) so that it cannot be moved or dragged by mistake. The locked Route(s) have a icon next to it if locked.
- - The **Unlock** button is used to unlock locked Route(s) for editing purposes.
- - The **Add Attachment** button attaches any image, text, pdf or any other kind of document to the selected Route. Clicking on it displays the file prompt where the location of the file to be attached can be selected.

Some of the above-mentioned tasks can easily be accomplished by using the Context Menu.

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Managing Markers

Click on Markers in the Explorer view and a list of all the Markers created is displayed in the Editing view. Clicking on any of the Markers displays more detailed Marker information along with a thumbnail image of the selected Marker in the Editing view. In the Explorer view, more Marker information is displayed such as the hide/unhide status, lock/unlock status, name, description, date created and the geographical coordinate.

A icon appears next to the Marker name if it is visible. The hidden/visible mode can be toggled by simply clicking on this icon. Similarly, Markers can also be made to toggle between locked and unlocked state by simply clicking on the icon next to the Marker name.

The buttons in the main toolbar help accomplish all the tasks associated with the selected Markers.

- - The **Folders View** button displays the various Program Objects (Charts, Routes, Markers, etc.) in the Explorer view of the NavManager. The folder list is used to navigate through all the Markers.
- - The **Delete** button deletes the Marker(s) selected in the Editing view. The Markers are not deleted permanently; they are sent to the Trash Bin from where they can be restored if the Marker(s) are deleted by mistake..
- - The **Export** button displays a prompt to save the selected Marker(s) as a **.nso** NavSim Object file. This **nso** file can be used for sharing Objects amongst the user community or for transfer of data from one location to another.
- - The **Add to Export Bin** button exports a multitude of different Objects to a file as explained in the **Exp**orting Object section of this document.
- - The **Search** button is used to bring up the search criteria in the Explorer view of the NavManager. To revert to the folders view simply click on the **Folders View** button.
- - The **Print** button prints the Marker(s) overlaid on the Chartview.
- - The **Print Preview** button displays a preview of the selected Marker(s) with the Chart in the background as it looks like in print.

- - The **Thumbnail** button displays all the Markers at a glance using a thumbnail view for each Marker.
- - The **Goto** button displays the selected Marker in the main Chart view of the program. This is extremely useful when it is desired to view a Marker quickly instead of panning around and zooming in order to view the Marker.
- - The **Hide** button hides the selected Marker(s) from the main Chart view of the program. Once hidden, the Markers are not visible in the main Chart view. They can easily be made visible again by clicking on the **UnHide** button. Markers can also be hidden by clicking on the icon in the **Hide/Unhide** column in the Editing view.
- - The **UnHide** button is used to make hidden Markers visible again. All visible Markers have a icon next to it.
- - The **Lock** button locks the position of the selected Marker(s) so that it cannot be moved or dragged by mistake. The locked Marker(s) have a icon next to it if locked.
- - The **Unlock** button is used to unlock locked Marker(s) for editing purposes.
- - The **Add Attachment** button attaches any image, text, pdf or any other kind of document to the selected Marker. Clicking on it displays the file prompt where the location of the file to be attached can be selected.

Some of the above-mentioned tasks can easily be accomplished by using the Context Menu.

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Managing Zones

Click on Zones in the Explorer view and a list of all the Zones created is displayed in the Editing view. Clicking on any of the Zones displays more detailed Zone information along with a thumbnail image of the selected Zone in the Editing view. In the Explorer view, more Zone information is displayed such as the hide/unhide status, lock/unlock status, name, description and date created.

A icon appears next to the Zone name if it is visible. The hidden/visible mode can be toggled by simply clicking on this icon. Similarly, Zone can also be made to toggle between locked and unlocked state by simply clicking on the icon next to the Zone name.

The buttons in the main toolbar help accomplish all the tasks associated with the selected Zones.

- - The **Folders View** button displays the various program Objects (Charts, Routes, Markers, etc.) in the Explorer view of the NavManager. The folder list is used to navigate through all the Markers.
- - The **Delete** button deletes the Zone(s) selected in the Editing view. The Zones are not deleted permanently; they are sent to the Trash Bin from where they can be restored if the Zone(s) are deleted by mistake..
- - The **Export** button displays a prompt to save the selected Zone(s) as a **.nso** NavSim Object file. This **nso** file can be used for sharing Objects amongst the user community or for transfer of data from one location to another.
- - The **Add to Export Bin** button exports a multitude of different Objects to a file as explained in the **Exp**orting Object section of this document.

- - The **Search** button is used to bring up the search criteria in the Explorer view of the NavManager. To revert to the folders view simply click on the **Folders View** button.
- - The **Print** button prints the Zone(s) overlaid on the Chart view.
- - The **Print Preview** button displays a preview of the selected Zone(s) with the Chart in the background as it looks like in print.
- - The **Thumbnail** button displays all the Zones at a glance using a thumbnail view for each Zone.
- - The **Goto** button displays the selected Zone in the main Chart view of the program. This is extremely useful when it is desired to view a Zone quickly instead of panning around and zooming in order to view the Zone.
- - The **Hide** button hides the selected Zone(s) from the main Chart view of the program. Once hidden, the Zone are not visible in the main Chart view. They can easily be made visible again by clicking on the **UnHide** button. Zone can also be hidden by clicking on the icon in the **Hide/Unhide** column in the Editing view.
- - The **UnHide** button is used to make hidden Zones visible again. All visible Zones have a icon next to it.
- - The **Lock** button locks the position of the selected Zone(s) so that it cannot be moved or dragged by mistake. The locked Zone(s) have a icon next to it if locked.
- - The **Unlock** button is used to unlock locked Zone(s) for editing purposes.
- - The **Add Attachment** button attaches any image, text, pdf or any other kind of document to the selected Zone. Clicking on it displays the file prompt where the location of the file to be attached can be selected.

Some of the above-mentioned tasks can easily be accomplished by using the Context Menu.

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Managing Trajectories

Click on Trajectories in the Explorer view and a list of all the Trajectories created is displayed in the Editing view. Clicking on any of the Trajectories displays more detailed Trajectory information along with a thumbnail image of the selected Trajectory in the Editing view. In the Explorer view, more Trajectory information is displayed such as the hide/unhide status, lock/unlock status, name, description and date created.

A icon appears next to the Trajectory name if it is visible. The hidden/visible mode can be toggled by simply clicking on this icon. Similarly, Trajectories can also be made to toggle between locked and unlocked state by simply clicking on the icon next to the Trajectory name.

The buttons in the main toolbar help accomplish all the tasks associated with the selected Trajectories.

- - The **Folders View** button displays the various program Objects (Charts, Routes, Markers, etc.) in the Explorer view of the NavManager. The folder list is used to navigate through all the Markers.
- - The **Delete** button deletes the Trajectories selected in the Editing view. The Trajectories are not deleted permanently; they are sent to the Trash Bin from where they can be restored if the Trajectories are deleted by mistake..

- - The **Export** button displays a prompt to save the selected Trajectories as a **.nso** NavSim Object file. This **nso** file can be used for sharing Objects amongst the user community or for transfer of data from one location to another.
- - The **Add to Export Bin** button exports a multitude of different Objects to a file as explained in the **Exp**orting Object section of this document.
- - The **Search** button is used to bring up the search criteria in the Explorer view of the NavManager. To revert to the folders view simply click on the **Folders View** button.
- - The **Print** button prints the Trajectories overlaid on the Chartview.
- - The **Print Preview** button displays a preview of the selected Trajectories with the Chart in the background as it looks like in print.
- - The **Thumbnail** button displays all the Trajectories at a glance using a thumbnail view for each Trajectory.
- - The **Goto** button displays the selected Trajectory in the main Chart view of the program. This is extremely useful when it is desired to view a Trajectory quickly instead of panning around and zooming in order to view the Trajectory.
- - The **Hide** button hides the selected Trajectories from the main Chart view of the program. Once hidden, the Trajectories are not visible in the main Chart view. They can easily be made visible again by clicking on the **UnHide** button. Trajectories can also be hidden by clicking on the icon in the **Hide / Unhide** column in the Editing view.
- - The **UnHide** button is used to make hidden Trajectories visible again. All visible Trajectories have a icon next to it.
- - The **Lock** button locks the position of the selected Trajectories so that it cannot be moved or dragged by mistake. The locked Trajectories have a icon next to it if locked.
- - The **Unlock** button is used to unlock locked Trajectories for editing purposes.
- - The **Add Attachment** button attaches any image, text, pdf or any other kind of document to the selected Trajectory. Clicking on it displays the file prompt where the location of the file to be attached can be selected.

Some of the above-mentioned tasks can easily be accomplished by using the Context Menu.

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Managing Annotations

NavSim's programs support three types of Annotations; Text Annotations, Freehand Annotations and Circle Annotations.
The tasks associated with all three types of Annnotations are the same, therefore the same tools or actions apply to them.

Click on any of the three Annnotation types in the Explorer view and a list of all the Annnotations of the particular type is displayed in the Editing view. Clicking on any of the Annnotations displays more detailed Annnotation information along with a thumbnail image of the selected Annnotation in the Editing view. In the Explorer view, more Annnotation information is displayed such as the hide/unhide status, lock/unlock status, name, description and date created.

A icon appears next to the Annotation name if it is visible. The hidden/visible mode can be toggled by simply clicking on this icon. Similarly, Annotations can also be made to toggle between locked and unlocked state by simply clicking on the icon next to the Annotation name.

The buttons in the main toolbar will help accomplish all the tasks associated with the selected Annotations.

- - The **Folders View** button displays the various program Objects (Charts, Routes, Markers, etc.) in the Explorer view of the NavManager. The folder list is used to navigate through all the Annotations.
- - The **Delete** button deletes the Annotations selected in the Editing view. The Annotations are not deleted permanently; they are sent to the Trash Bin from where they can be restored if the Annotations are deleted by mistake..
- - The **Export** button displays a prompt to save the selected Annotations as a **.nso** NavSim Object file. This **nso** file can be used for sharing Objects amongst the user community or for transfer of data from one location to another.
- - The **Add to Export Bin** button exports a multitude of different Objects to a file as explained in the **Exp**orting Object section of this document.
- - The **Search** button is used to bring up the search criteria in the Explorer view of the NavManager. To revert to the folders view simply click on the **Folders View** button.
- - The **Print** button prints the Annotations overlaid on the Chartview.
- - The **Print Preview** button displays a preview of the selected Annotations with the Chart in the background as it looks like in print.
- - The **Thumbnail** button displays all the Annotations at a glance using a thumbnail view for each Annotation.
- - The **Goto** button displays the selected Annotations in the main Chart view of the program. This is extremely useful when it is desired to view a Annotation quickly instead of panning around and zooming in order to view the Annotation.
- - The **Hide** button hides the selected Annotations from the main Chart view of the program. Once hidden, the Annotations are not visible in the main Chart view. They can easily be made visible again by clicking on the **UnHide** button. Annotations can also be hidden by clicking on the icon in the **Hide/Unhide** column in the Editing view.
- - The **UnHide** button is used to make hidden Annotations visible again. All visible Annotations have a icon next to it.
- - The **Lock** button locks the position of the selected Annotations so that it cannot be moved or dragged by mistake. The locked Annotations have a icon next to it if locked.
- - The **Unlock** button is used to unlock locked Annotations for editing purposes.

Some of the above-mentioned tasks can easily be accomplished by using the Context Menu.

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Exporting Objects

The **Export Bin** contains all the Objects that the user wants exported at the same time. Instead of exporting individual Objects

one at a time, this feature adds the capability of bundling a collection of varying Objects in the same .nso file.

Click on Export Bin in the Explorer view and a list of Objects to be exported is displayed. Simply click on the **Export** button to export all the Objects that are visible in the Editing view. A file dialog window is displayed where the location of the .nso file to be saved can be specified.

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Trash Bin

The Trash Bin feature provides another chance to retrieve Objects or Charts deleted by mistake. When Charts and Objects are deleted, they are saved in the Trash Bin to avoid permanent deletions by mistake. Select the Charts/Objects from the Editing view and then click on the **Restore** button to retrieve deleted Objects to their original locations.

When sure, the Trash Bin can be emptied at any time by right clicking on any Object in the Trash Bin and selecting the Empty option.

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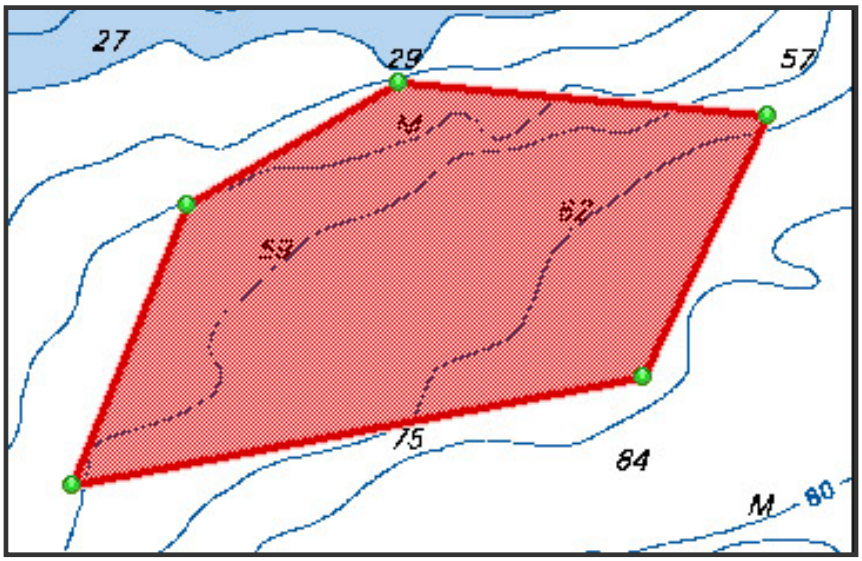
Working With Zones

- About Zones
- Changing Zone Properties
- Moving a Zone Leg
- Creating a Zone
- Locking / Unlocking Zones
- Setting Alarms for a Zone
- Deleting a Zone
- Duplicating a Zone
- Adding an Attachment

About Zones

BoatCruiser comes with the feature for creating customized Zones for any purpose required. Zones are areas of interest that can be defined by selecting successive Waypoints in the Main Chart View. Zones are shaded so that the area of interest is clearly defined. Below is an example of a Zone:



The Zone tool

appears on the main tool bar. Note that the program must be open in main chart view, i.e., full screen, to see this icon. Also note that by taking the mouse pointer over the button, in one or two seconds a ToolTip will appear with a description of what that button does.

From establishing a shallow water territory to defining wind and current conditions within an area, clearly marked Zones will be a welcome added feature to the charting and navigating experience. In addition to defining an area of interest, a zone can also provide information such as alarms when entering or exiting a Zone, the perimeter and area that the Zone covers, and the location of the center of the Zone.

Any image, text, pdf or any other kind of document can be attached to the selected Zone. See help under the

Managing Zones using NavManager.

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Creating A Zone

A Zone is created by adding waypoints in the Main Chart View. To start creating a Zone, click the Create Zone button on the Main Toolbar. Each time the left mouse button is clicked in the Main Chart View, a Waypoint will be placed at the point you clicked. Drag to create the first Leg of the zone. Click and repeat the process to create each leg of the Zone. To end Zone creation double left click on the last Waypoint to complete creating the Zone.

To add a Zone Waypoint to a location not visible in the Main Chart View, pan and/or zoom to the desired location first and then begin to create the Zone.

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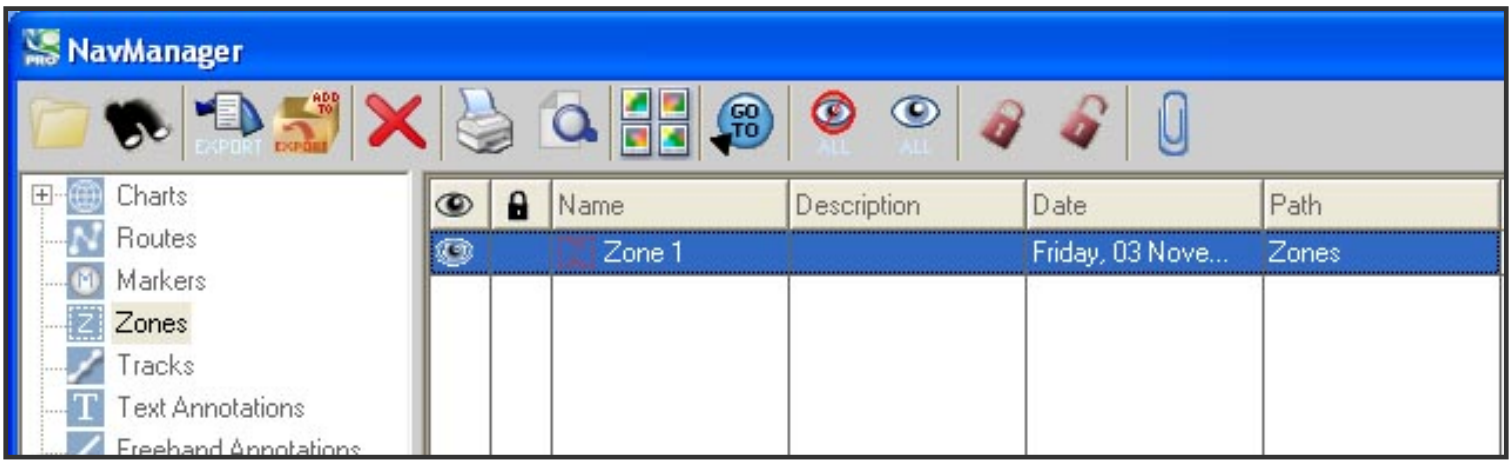
Deleting A Zone

There are two ways to Delete a Zone:

- In NavManager, select Zones, then select the Zone(s) to delete. Click the delete button which is located in NavManager's toolbar.



- Alternatively, right click on one of the Legs, i.e., one of the boundary lines of a Zone, and select Delete from the menu which appears.

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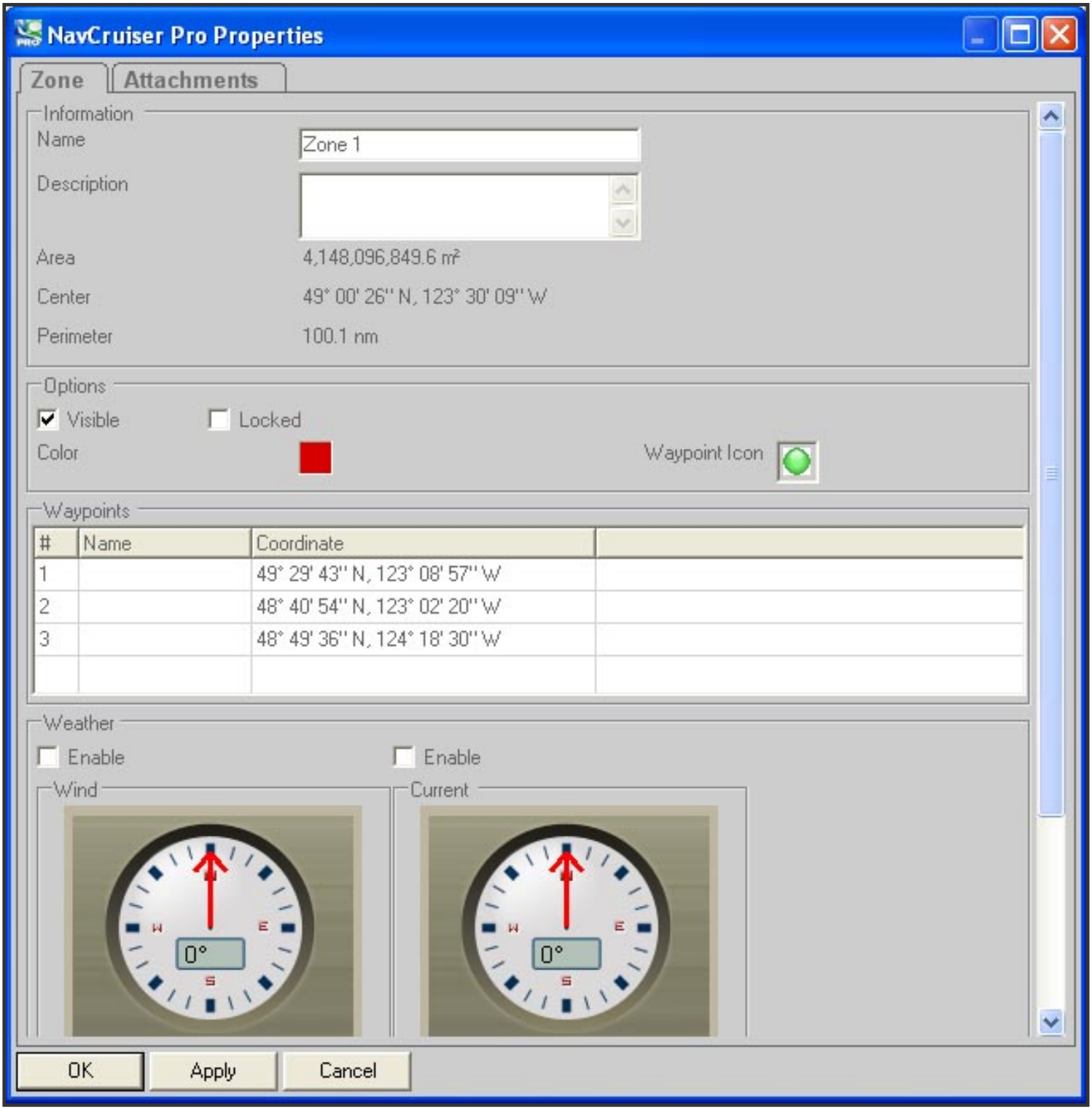
Changing Zone Properties

Zone properties can be changed using NavManager. Changes can be made to the name, add a description, Hide or Unhide, Lock or Unlock, change the colour of the Zone, change the Waypoint icon, set the Alarm or reset the Coordinates.

- Select the Zone in NavManager. Double-click on the selected Zone. On the dialogue box that opens, change any of the properties of the Zone. Remember to click Apply and OK when finished. **(Note: Wind and Current shown at the bottom of this image are only available in NC Pro.)**



- Alternatively, edit the Zone properties by right-clicking on the Zone boundary, choosing Properties and choosing the appropriate topic from the menu which appears.

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Locking / Unlocking a Zone

- There are two ways to Lock/Unlock a Zone: In NavManager, select the Zone to Lock or Unlock, and click the Lock checkbox (underneath the padlock icon) to lock or unlock the Zone. (Note: the green callout with text will not appear on your screen. This is for demonstration purposes only.)

- Or, right-click on the boundary of the Zone and choose Lock or Unlock, as the case may be, from the menu which appears on the screen.

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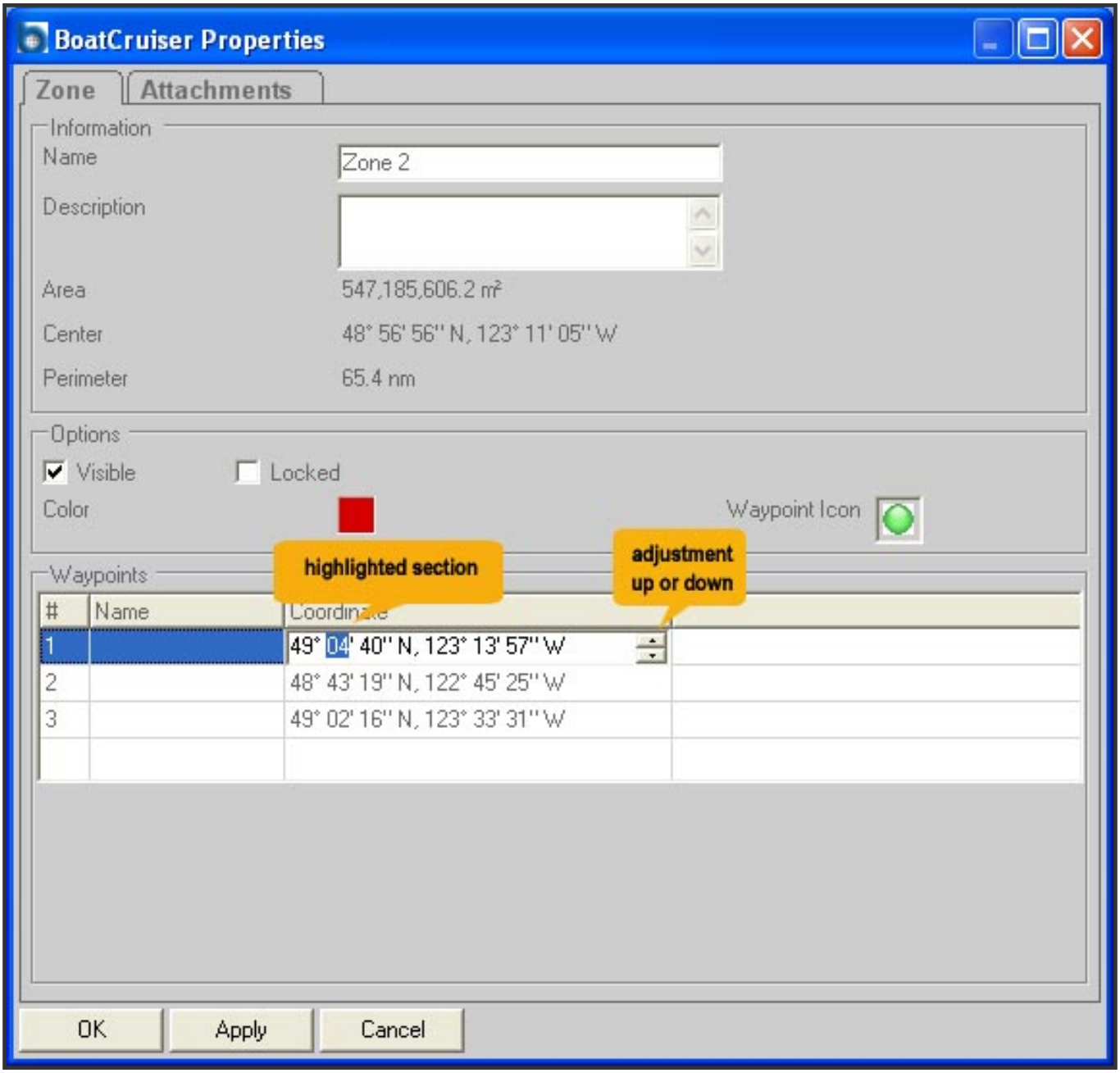
Duplicating A Zone

Right-click on the boundary of the Zone to be duplicated. Choose Duplicate in the resulting submenu. Nothing will appear to change but, in fact, there will be a duplicate zone created exactly on top of the original zone.

Note that Zones can only be moved by resetting coordinates in NavManager or in the Properties window. Highlight the section of the zone you wish to change by clicking on the section and set new coordinates by typing in new information or using the pull-down menu to change. (Note that the orange callouts with text do not appear on the screen. They show here for demonstration purposes only.) Don't forget to click Apply and OK when finished.



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Moving a Zone Leg

Once a Zone has been created, either of the legs of the Zone can be moved at any time by left-clicking and holding on a waypoint , then dragging the waypoint to the desired position.

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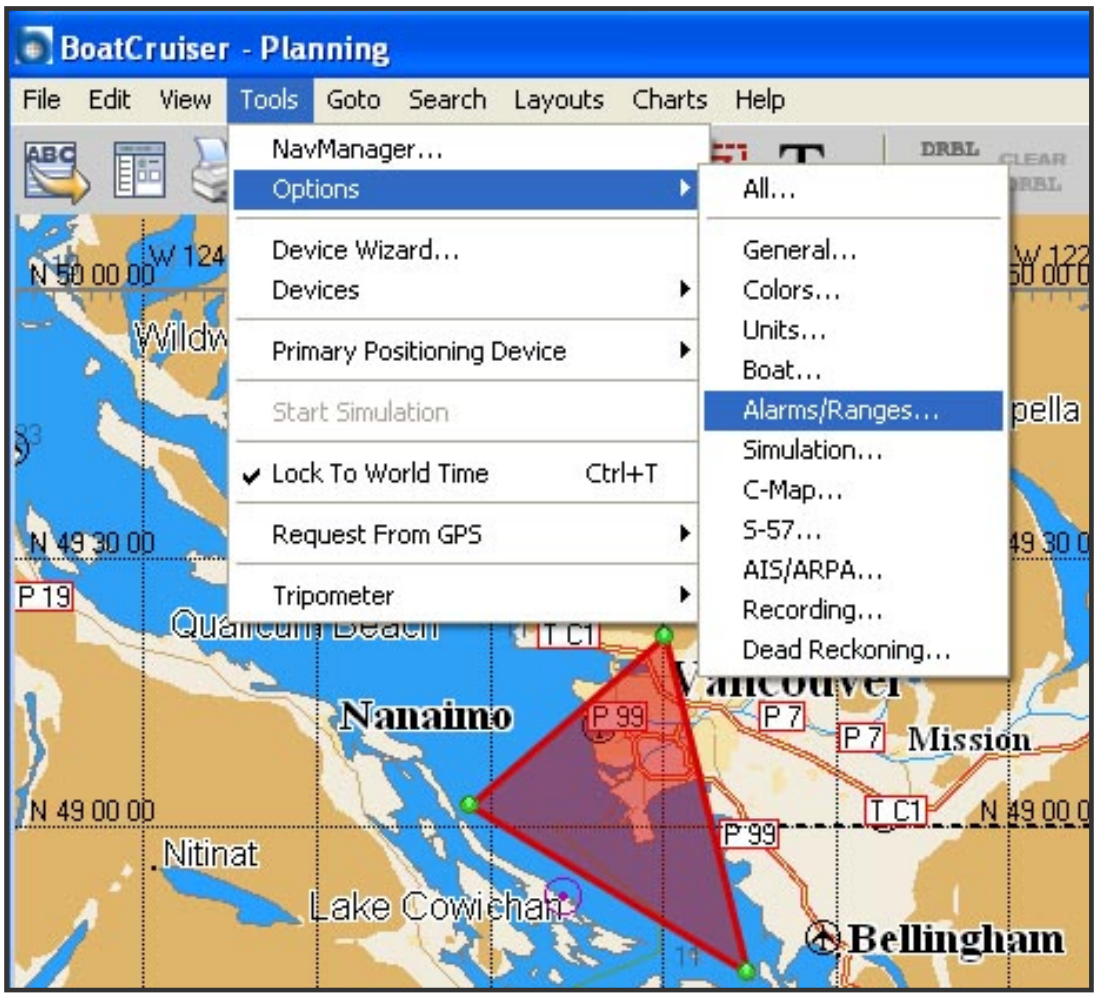
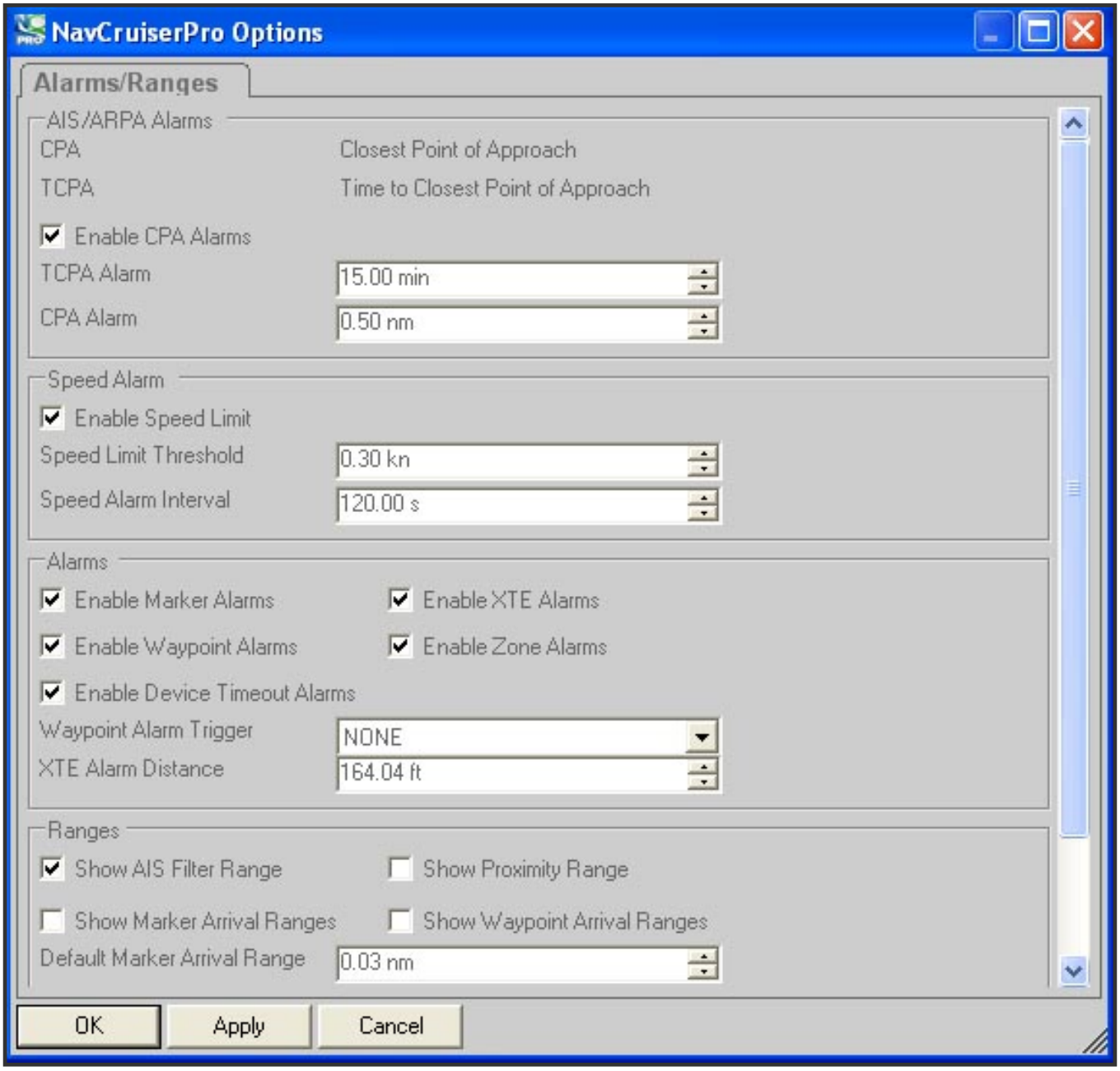
Setting Alarms for a Zone

To set up alarms for a Zone, click on Tools on the main tool bar, click options, then choose Alarms/Ranges on the menu which appears.



When the Alarms/Ranges page opens, this is what shows:

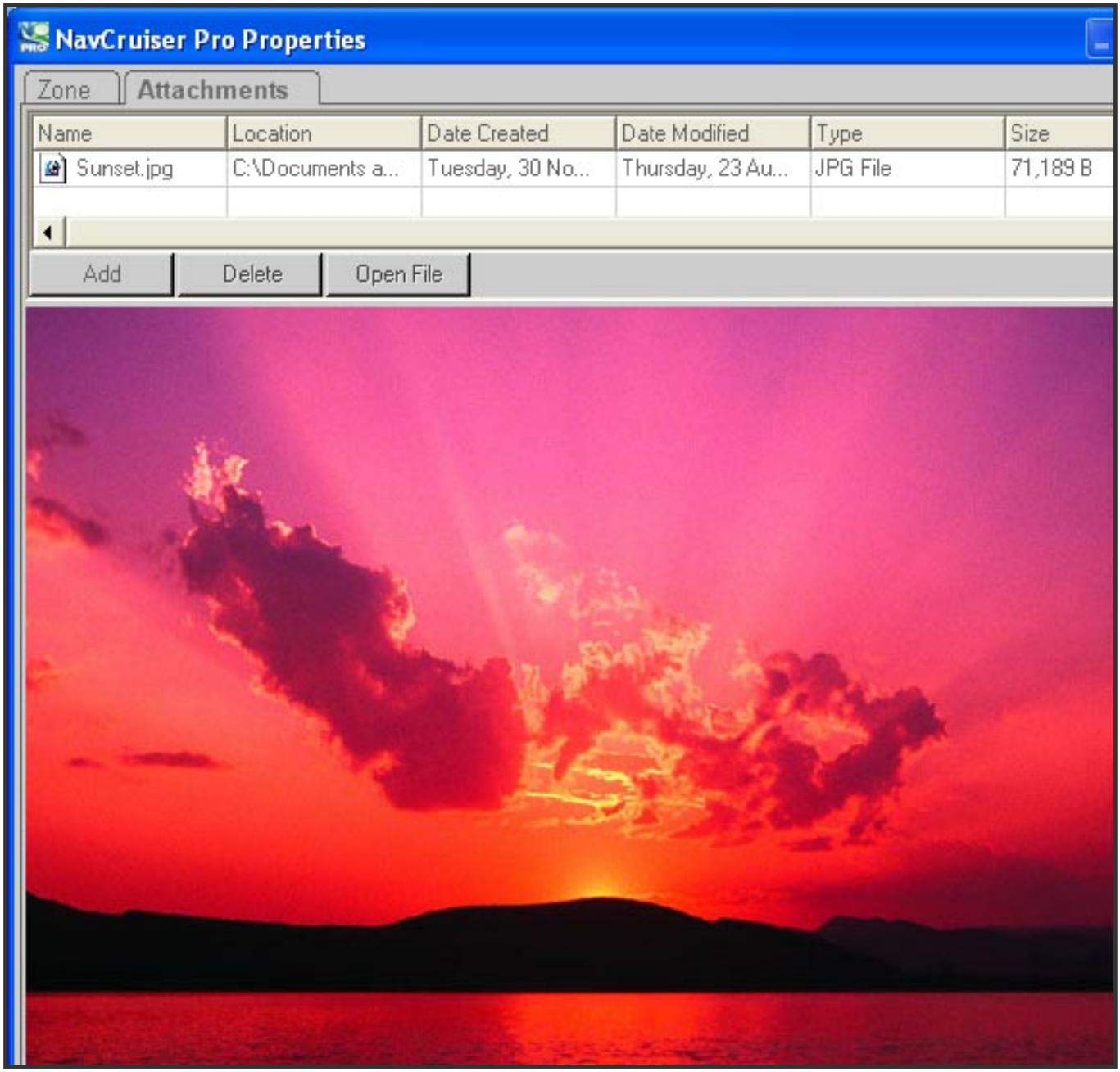
(Changes are made by clicking on each section and overwriting text, or by using the small up and down arrows.) Don't forget to click Apply and OK when finished.



Adding An Attachment

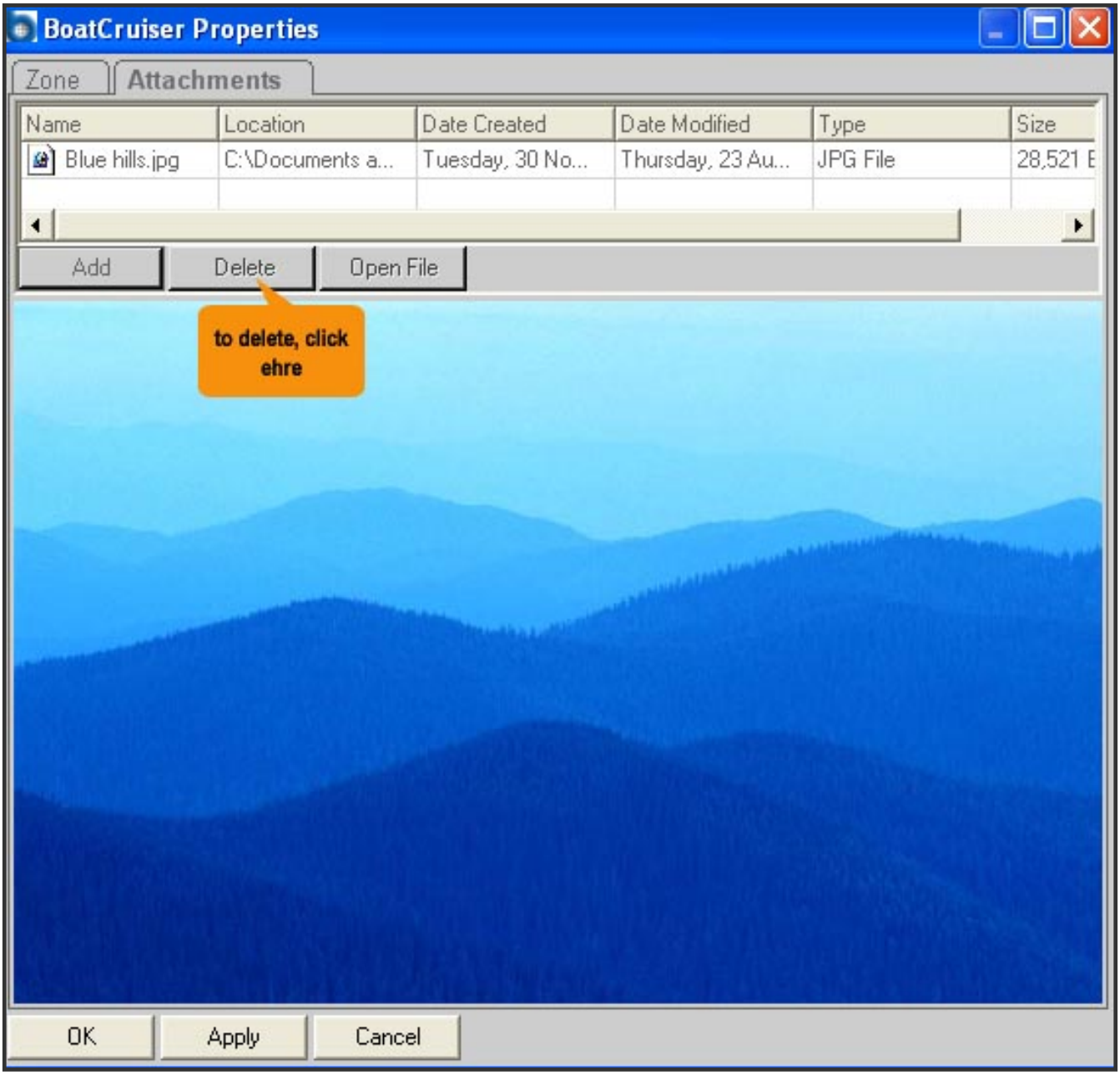
There are two ways to add an attachment:

- One is to right-click on the border of the Zone and choose Properties. When the window opens, choose the Attachments tab at the top. Click on Add and browse to find the image or text file to attach. When the image is attached, a preview will open. Don't forget to click Apply and OK when finished.



- The other way to add an attachment is to go into NavManager, select Zones, select the Zone you wish to add the attachment to and double-click on the selected Zone. The Properties window above will open. Click on Add and browse to find the image or text file to attach. When the image is attached, a preview will open. Don't forget to click Apply and OK when finished.

  Once a text or image has been added, it can be deleted by highlighting the selection on under the tool bar and clicking Delete. Don't forget to click Apply and OK when finished. When finished, the preview window will be empty. (Note: the orange callout with text will not appear on the screen. It is shown here for demonstration purposes only.)



- The second way to add an attachment is to drag a file or image from the desktop. Click on the text file or image, hold and drag it from the desktop to the Zone and drop on top of the border of the Zone. Delete any attachment as described above.

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Working With GPS

- About Working With GPS
- Viewing the GPS Satellite Constellation
- Physically Connecting to the GPS Receiver
- Configuring GPS Communications
- GPS Functionality
- Navigating With GPS

About Working With GPS

NavSim software is designed to be linked with a Global Positioning System (GPS) receiver in order to display the current position on the loaded charts and to record a trajectory while navigating. Once connected and configured, the GPS can greatly enhance the level of data provided our software.

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Physically Connecting to the GPS Receiver

This program supports GPS receivers capable of outputting NMEA-0183 compliant string. Please check the user manual for the GPS receiver if unsure of its capabilities.

The communication link from the GPS receiver to the computer is established in one of two ways, depending on the GPS receiver used:

Serial communication over an RS-232 cable with a DB-9 connector.

Typically a communications cable will come with the GPS receiver that has a DB-9 Female connector (as shown) on one end to connect to the PC's serial port (also called a COM port), and another connector on the other end of the cable to connect to the GPS receiver.

If the GPS receiver has a connector for hooking into such a cable, but the cable is missing, a replacement may be available from the manufacturer of the receiver or a local marine outfitting store.

Note: Some newer laptops do not have DB-9 Male connectors to accept these

	cables, in which case a PCMCIA card GPS receiver (shown below) may be required.
	Communication using a PC-Card (also known as a PCMCIA card) that slides into the side of a laptop computer. This type of connection is typically only found on laptop computers, and there are a number of PCMCIA GPS receivers available for laptops. In this case, connecting the GPS receiver is just a matter of plugging in the card and following the instructions given by the GPS manufacturer, e.g., installing software drivers, etc.

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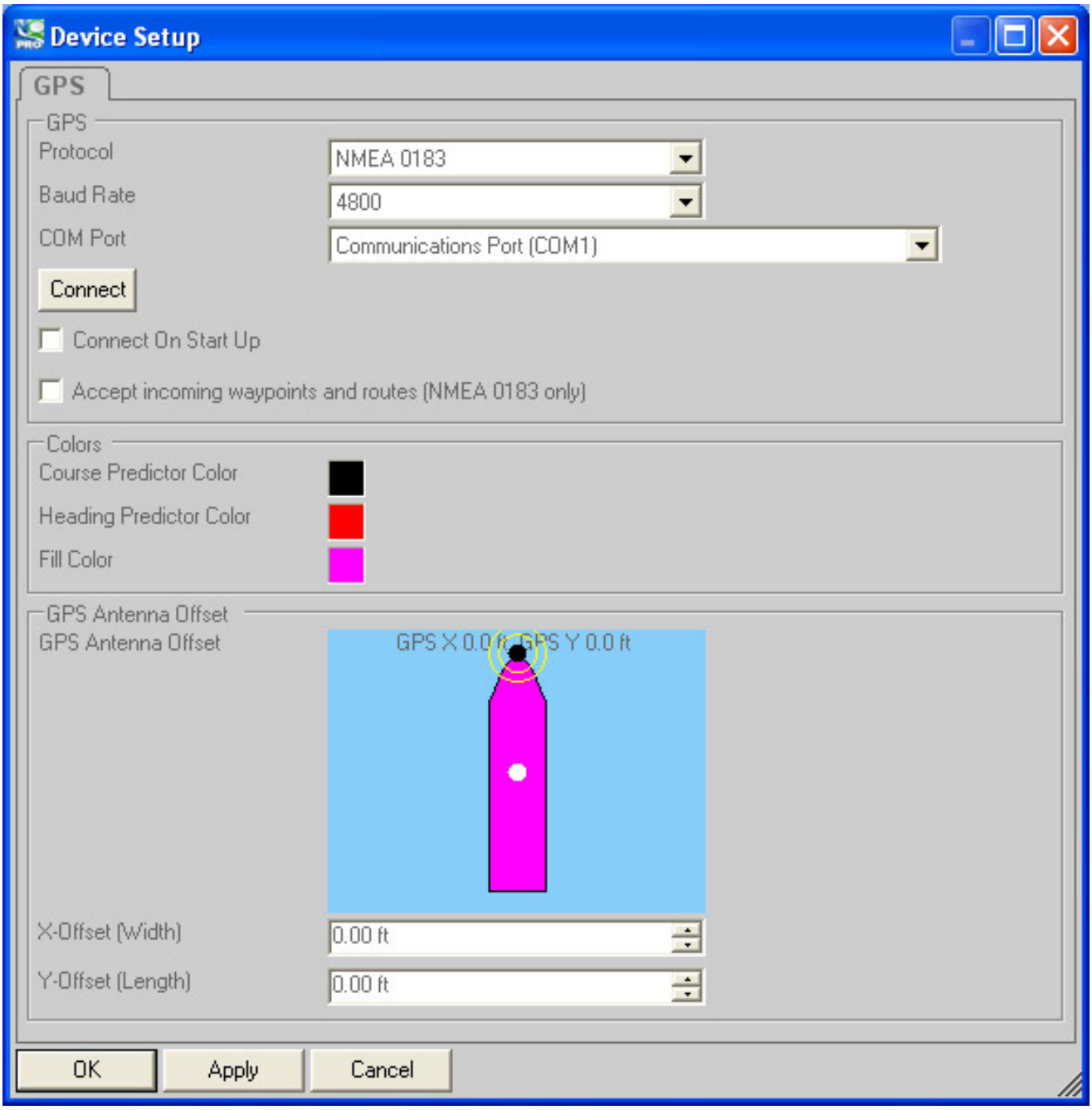
Configuring GPS Communications

Once the hardware is connected to the computer, the software can be configured to display the information using the Device Finder Wizard or through the GPS dialog in "Tools->Devices->GPS". If a GPS device is configured through the Device Tools dialog, be sure to set the correct Baud Rate for the receiver. This baud rate can usually be found in the receiver documentation and can even be configured on some units. If a connection is not immediately established , different COM ports and baud rates may have to be tested in order to find the correct combination.



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GPS Functionality

Once the software is configured and reading from the GPS, and at least four active satellites are in view, it can use the GPS information for navigation and tracking. When GPS information is available, it is used to update many of the displays available. For more information about displaying more GPS information, see Navigation.

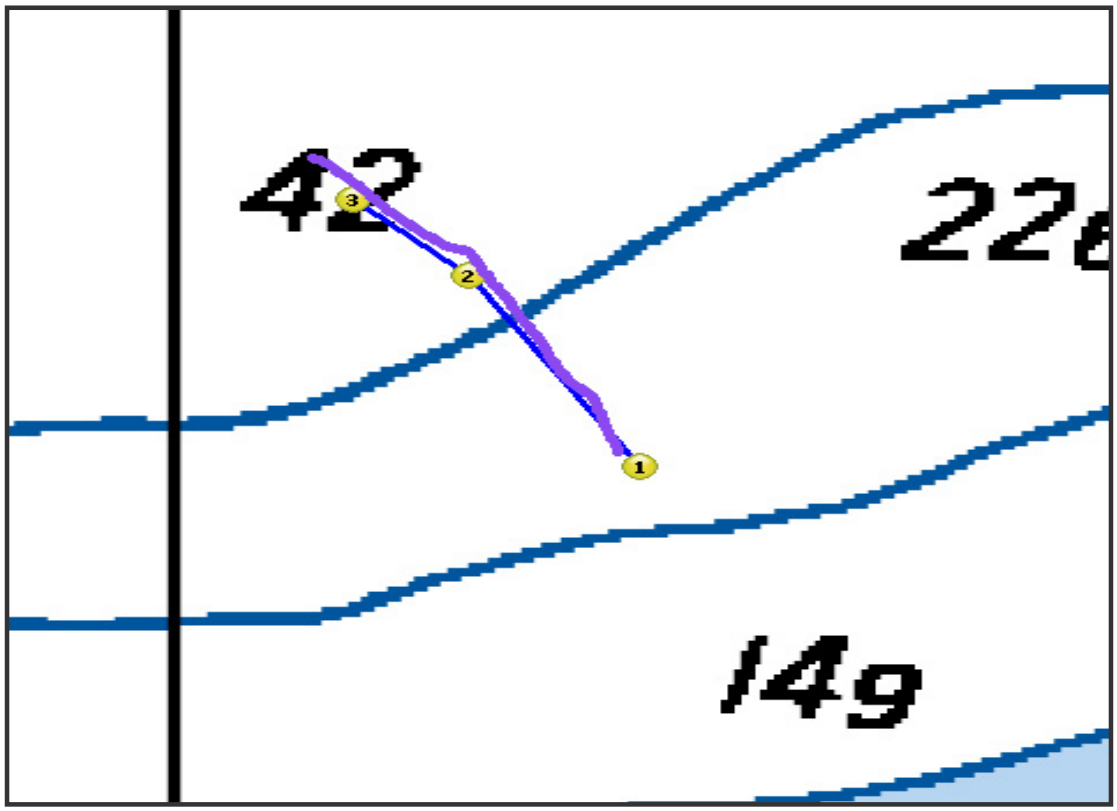
Follow GPS

In order to centre the Chart View on the present location reading from the GPS, press the Follow Boat

button on the Main Toolbar. With Follow Boat activated, the Zoom-In command will cause the chart to zoom to the current GPS location. This only works on the primary chart view.

Plot Trajectory

The software is able to record a running path of vessel positions (the trajectory) based on the information sent to it by the GPS receiver. The GPS tracking feature can be enabled by clicking the "record" button from the device Status Bar. When position recording is activated, the button becomes highlighted. A trajectory is also produced when running a simulation. A set of rules for controlling the recording of trajectories are configurable by the user as discussed below. Please visit the Trajectories page to read more about trajectories in general.



Uploading to and Downloading from the GPS

The software allows the transfer of information to and from a GPS receiver. It can:

- Upload Markers to the GPS: right-click the Marker and choose "Send to GPS". Uploading an object may change its name within the GPS.
- Download Routes and Markers from the GPS receiver. An object received from the GPS will have '[GPS]' attached to the front of its name. *Objects received from the GPS will overwrite objects in the software having the same name.* See the Sending and Requesting section of Working with Routes to read more about this feature. Please refer to the GPS receiver's manual for details on sending out route and marker information.

Tips: For best results give objects short, unique names before sending them to the GPS. and avoid using '[' and ']' in object names.

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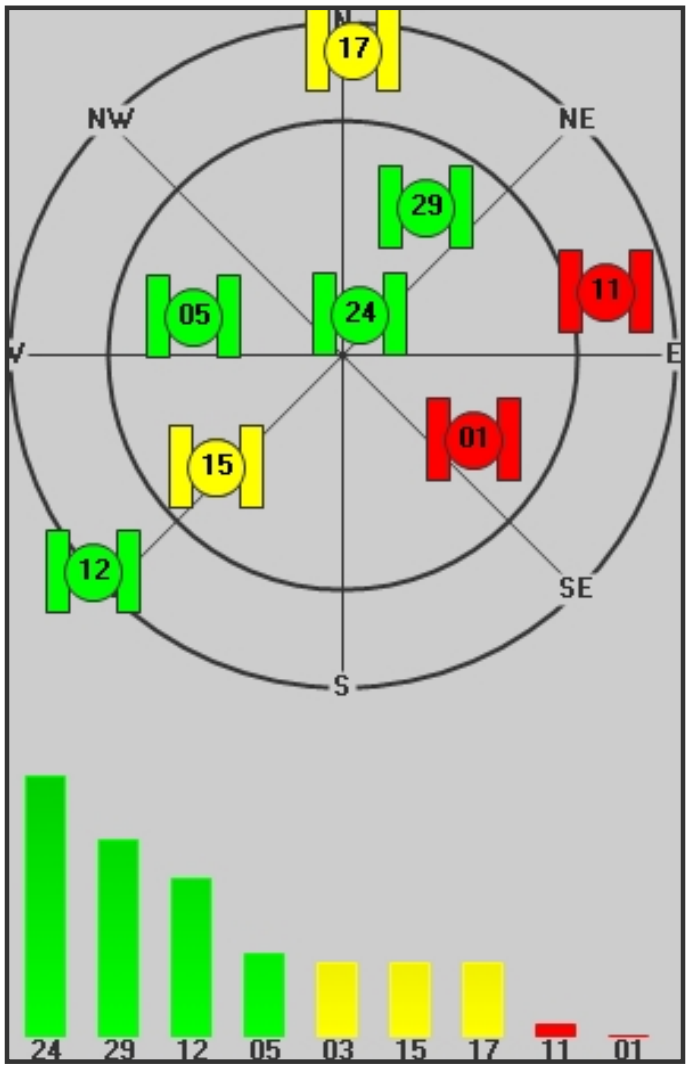
Viewing the GPS Satellite Constellation

To view a graphic of the satellite constellation and the present signal strengths, add the "Satellites" control to a custom layout. The picture below shows an example of this control.



This shows the location of the GPS satellites orbiting overhead.

- The dot in the centre represents the point directly overhead (pointing up into space)
- The next circle out represents points 60-degrees from the horizon
- The circle after that represents points 30-degrees from the horizon
- The outer circle represents the horizon itself

This shows all of the available GPS satellites in the current hemisphere. The satellite strength is shown in the numbered bar graph beneath the constellation. Strong signals are indicated in green, followed by yellow for medium signals and red for bad signals. There must be at least four active satellites for the GPS to calculate the current location and altitude.

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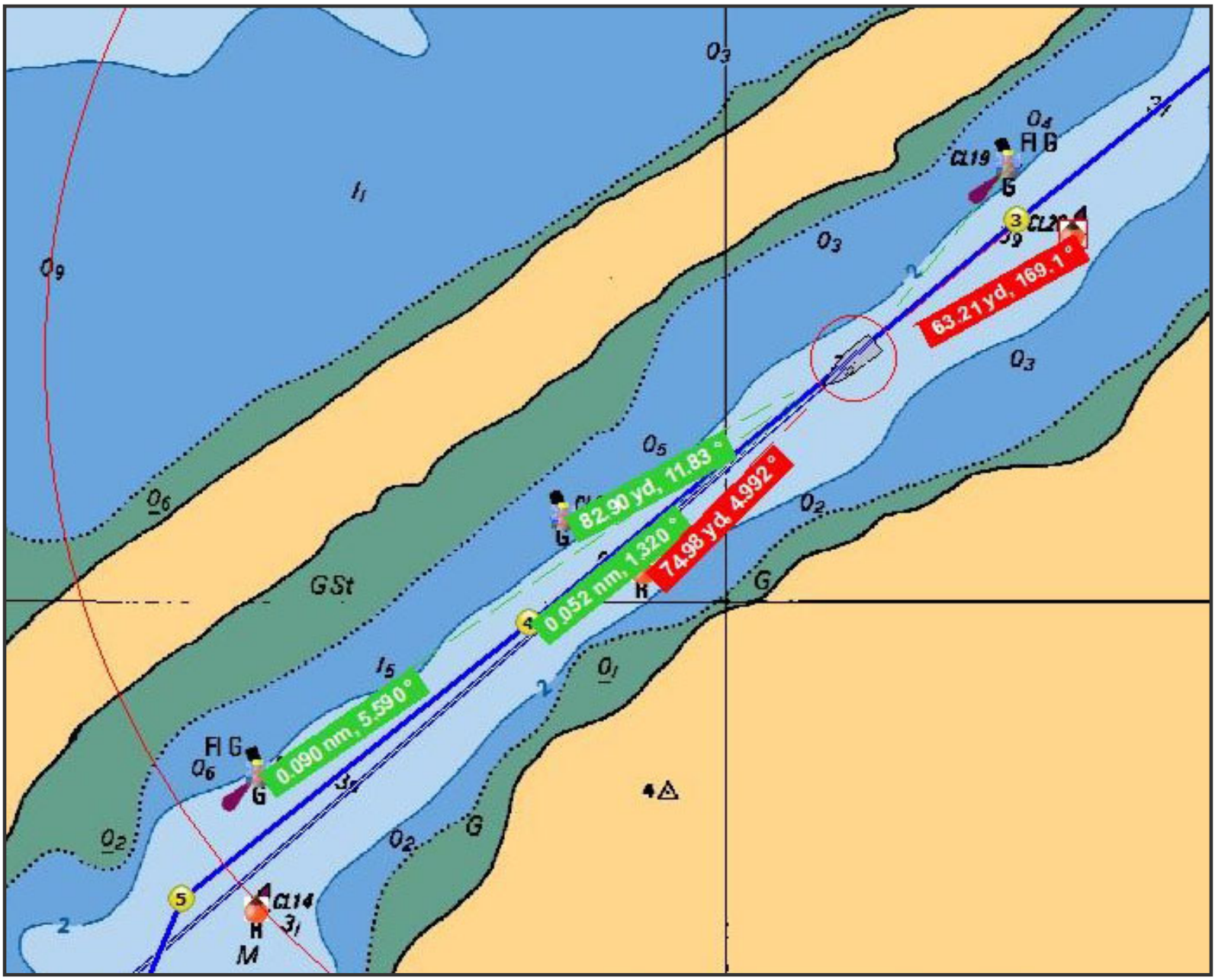
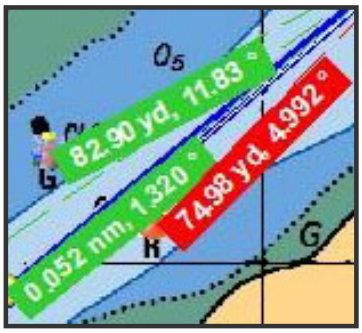
Navigating With GPS

When navigating at the appropriate level of zoom with the GPS, navigation aids for the currently active route will be displayed, depending on the vessel options. When navigating a specific route, right click on the first waypoint and click Activate Route from the Context Menu. This will highlight the next active waypoint in the route with a red circle.

The image below shows an example of navigating with the GPS. Navigation information is displayed using waypoints (once the route is activated), markers, marinas, geolocations and photos.

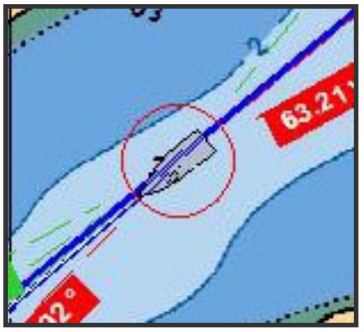


This figure illustrates many things to the user. The following elements are important to note:



- ***Navigation Tags:*** Navigation tags are illustrated by a line from the current boat location to the pertinent object. The tag will display the distance to the object and the adjustment to heading to the object to either port (red tags) or to starboard (green tags).

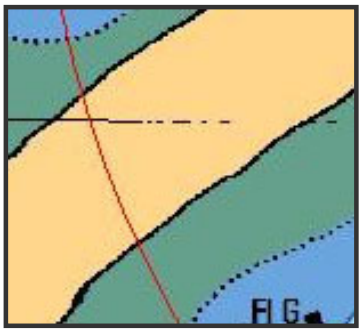
NOTE: Navigation tags will only appear to waypoints that are on the active route. Routes can be enabled with the Start Navigation button from the Route Context Menu. No other routes will have tags associated with their waypoints.



- ***Alarm Radius:*** The alarm radius can be set within the Objects tab of the BoatCruiser Options (also applicable to SailCruiser and NavCruiser PRO) dialog. No lines or information will be drawn inside the alarm radius so that the view of the immediate boat surroundings does not become obstructed.

- When a waypoint enters the alarm radius, a message will be displayed on the screen and the next waypoint in the route will be highlighted with a red circle around it. If using an autopilot, it will navigate towards the next active waypoint.

- If a waypoint has an alarm radius set (using the Route Properties dialog), it will alarm and trigger a switch to the next point when the boat enters. For more information on autopilot use, go to the "Using Your Autopilot" page.



- ***Proximity Radius:*** The proximity radius can also be set within the Objects tab of the BoatCruiser Options (also applicable to SailCruiser and NavCruiser PRO) dialog. This radius is the outer limit for navigation information to be drawn on the chart.

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Devices

- Supported Devices
- Device Tools
- Device Finding Wizard

Supported Devices

NavSim products support several standard marine NMEA devices like the GPS, AIS, Echo Sounders, Anemometer, Gyro and Autopilot systems. Before these devices can be used they have to be configured for use.

The easiest way to set-up the devices is to connect them to the serial ports on the computer and then launch the Device Finding Wizard. Let the program scan through the serial ports on the computer and set up the devices automatically.

The automatic device configuration can be accomplished in two different ways; using the Device Finding Wizard and by selecting the Devices option from the Tools menu.

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Device Finding Wizard

Click on the Quickstart icon from the Main Toolbar which displays the Wizard options.

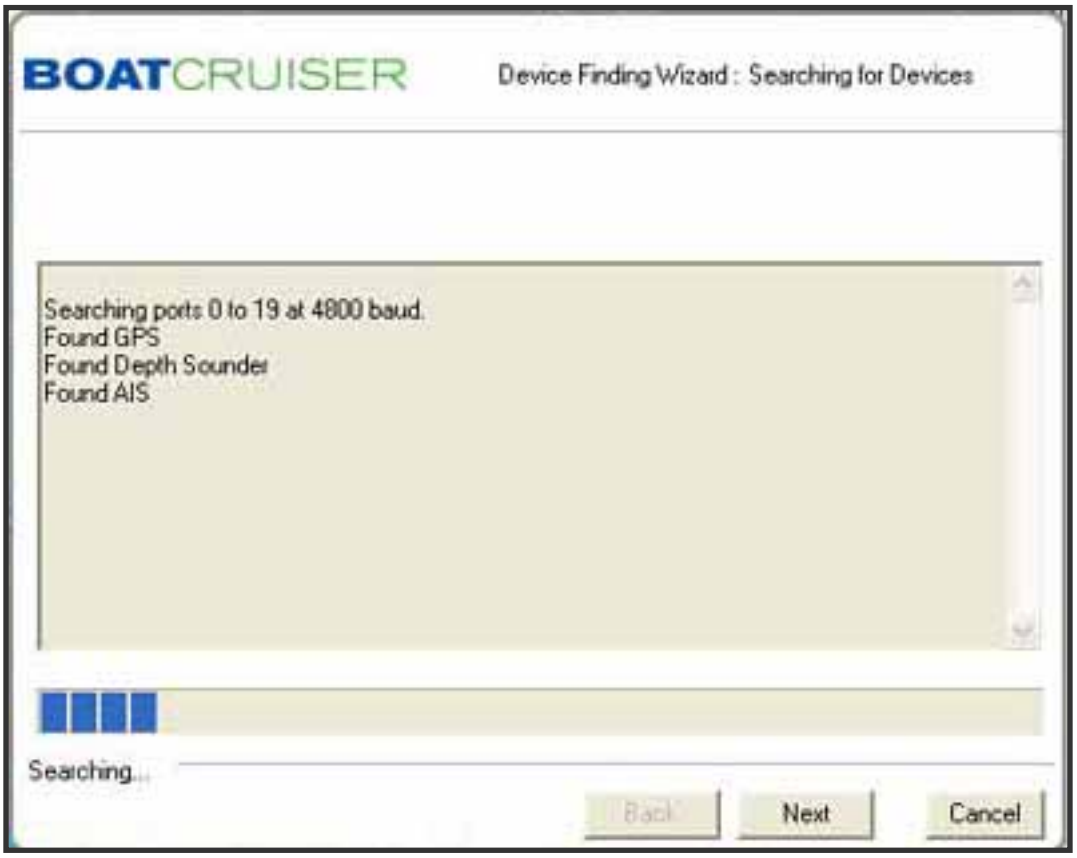
Welcome to
BOATCRUISER
QuickStart Menu
• Wizards perform tasks for you (ex. importing charts from your computer)
• Tutorials show you how various features work (ex. AIS)
You can access the Quick Start Menu anytime by clicking on in top menu bar.
Wizards
Tutorials
Chart Import Wizard
Import charts from your computer.
Device Finding Wizard
Find and connect to devices attached to your computer.
Object Import Wizard
Import objects from your computer.
Show on startup
Close

Choose Device Finding Wizard from the Wizards tab to launch the device set-up Wizard. Follow the instructions step-by-step to set up the devices for use with your NavSim product.

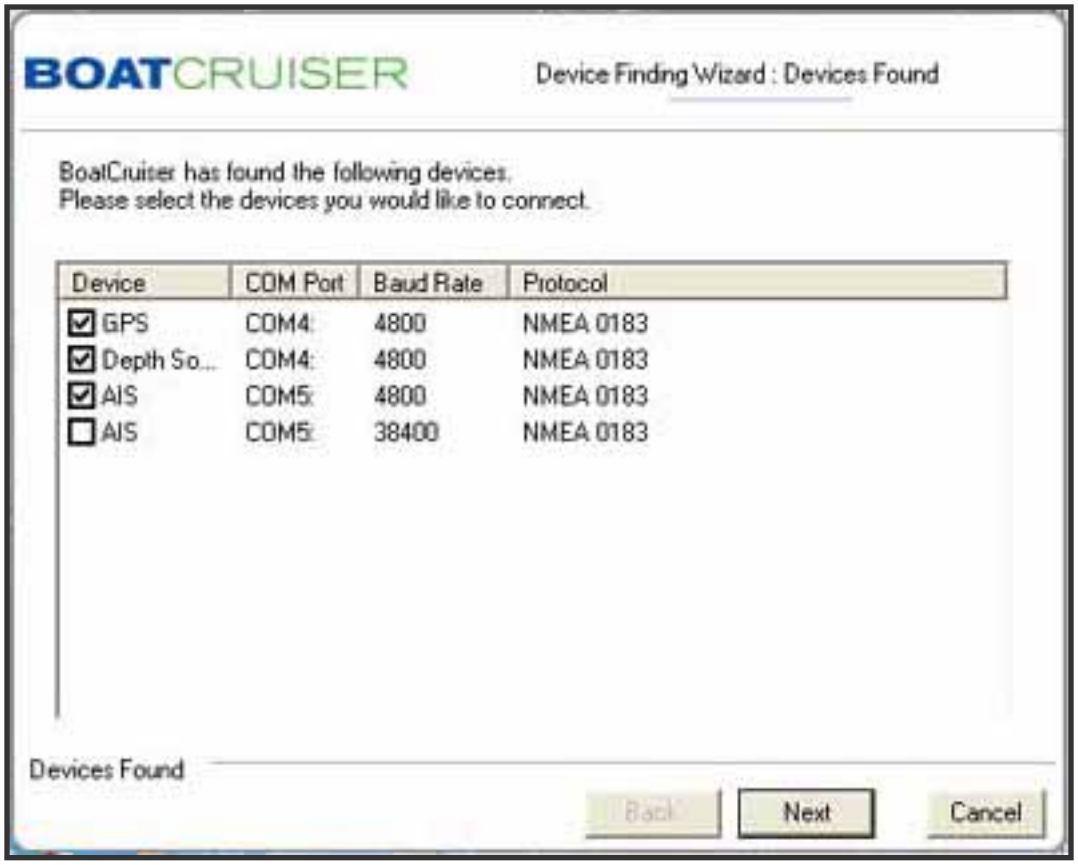
Step 1 / 4

BOATCRUISER
Device Finding Wizard : Introduction
This Wizard will help you find and configure your external devices such as GPS, AIS, depth sounder and autopilot.
Please ensure that any devices you would like to use with BoatCruiser are connected to your computer and turned on before clicking Next.
Introduction
Back
Next
Cancel

Step 2 / 4



Step 3 / 4



Step 4 / 4

Device Status

Once the devices are set-up correctly, the status bar will display the devices as activated.

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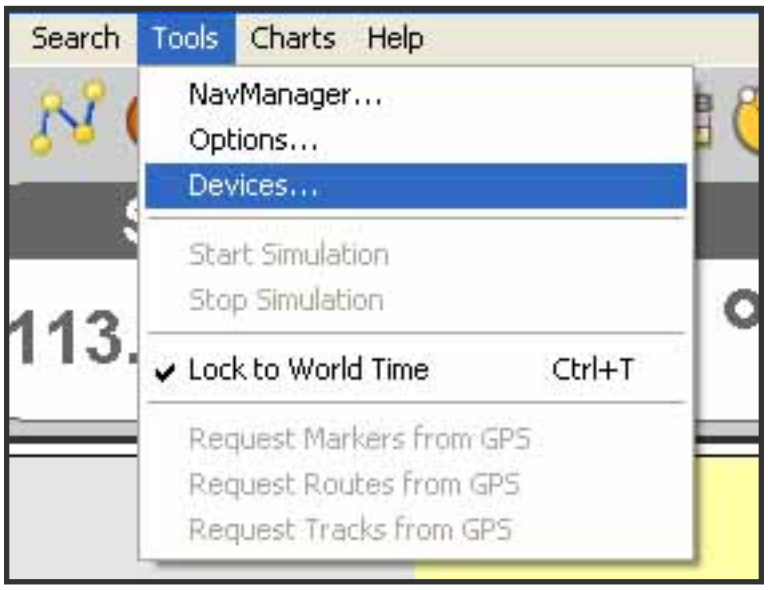
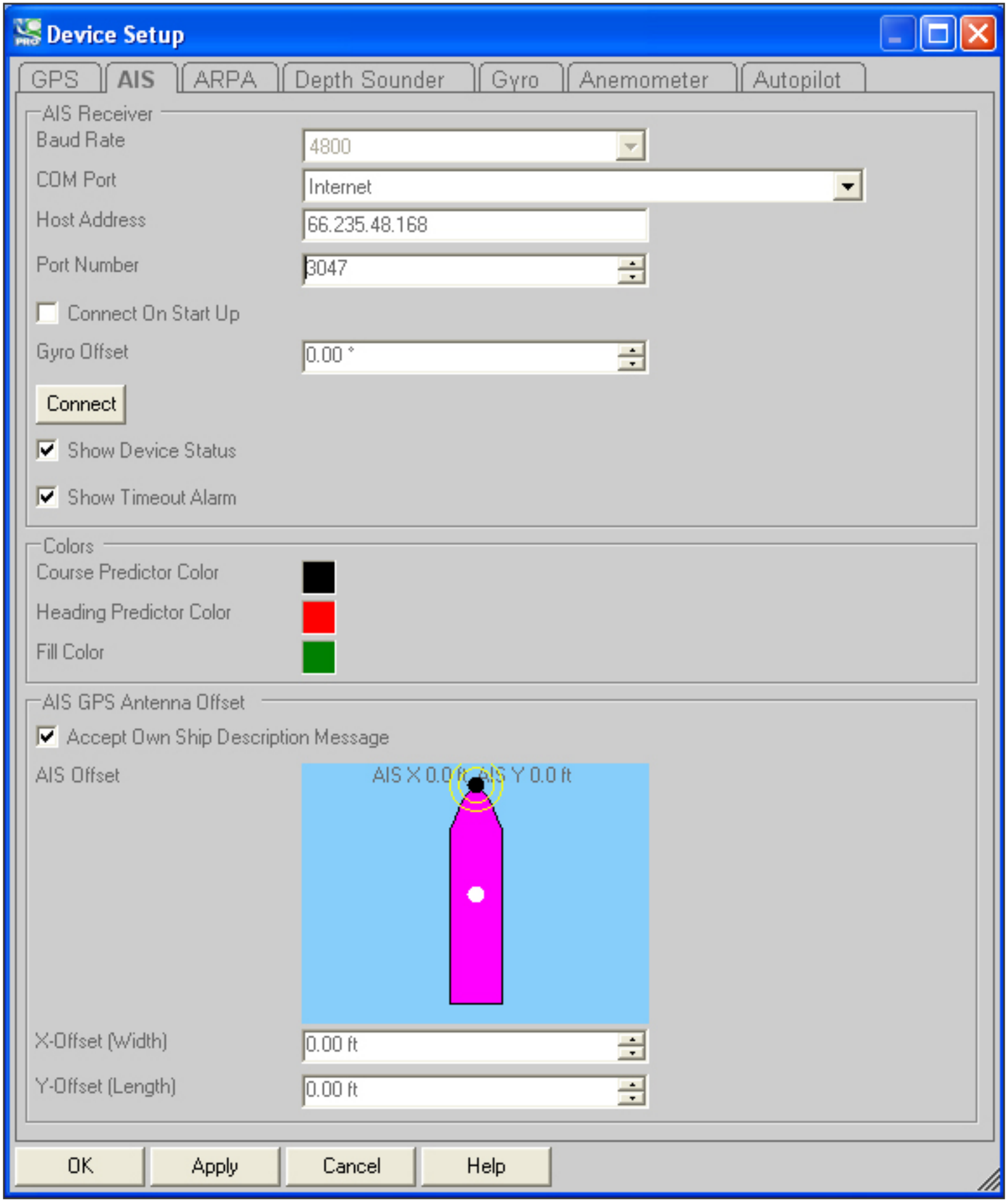
Device Tools

The configuration options of the devices can also be set-up by selecting the Devices option in the Tools menu from the Menubar.



Clicking on the Devices option from the Tools menu yields the advanced Devices options as shown below.



If the Connect on Start Up option is checked, your NavSim product will automatically try to

connect to the device every time the program is launched. This feature takes care of the annoyance of setting up the devices every time the program is run.

You can set up the devices manually or simply click on the Launch button to bring up the Device Finding Wizard. When connected, the Status Bar will show the activated devices in red.

See Autopilot set-up for more details on setting up an autopilot for use with your NavSim product.

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Automatic Information System (AIS)

- About AIS
- Connecting AIS
- AIS Icons

About AIS

Automatic Information System (AIS) is a system whereby ships use special radio hardware to broadcast information about their current position, heading, speed, and a host of other information. The same hardware provides a display of information on all other AIS-enabled vessels in the area, giving the captain a live picture of traffic conditions. A live introduction to AIS in the program is available through the Tutorials menu.

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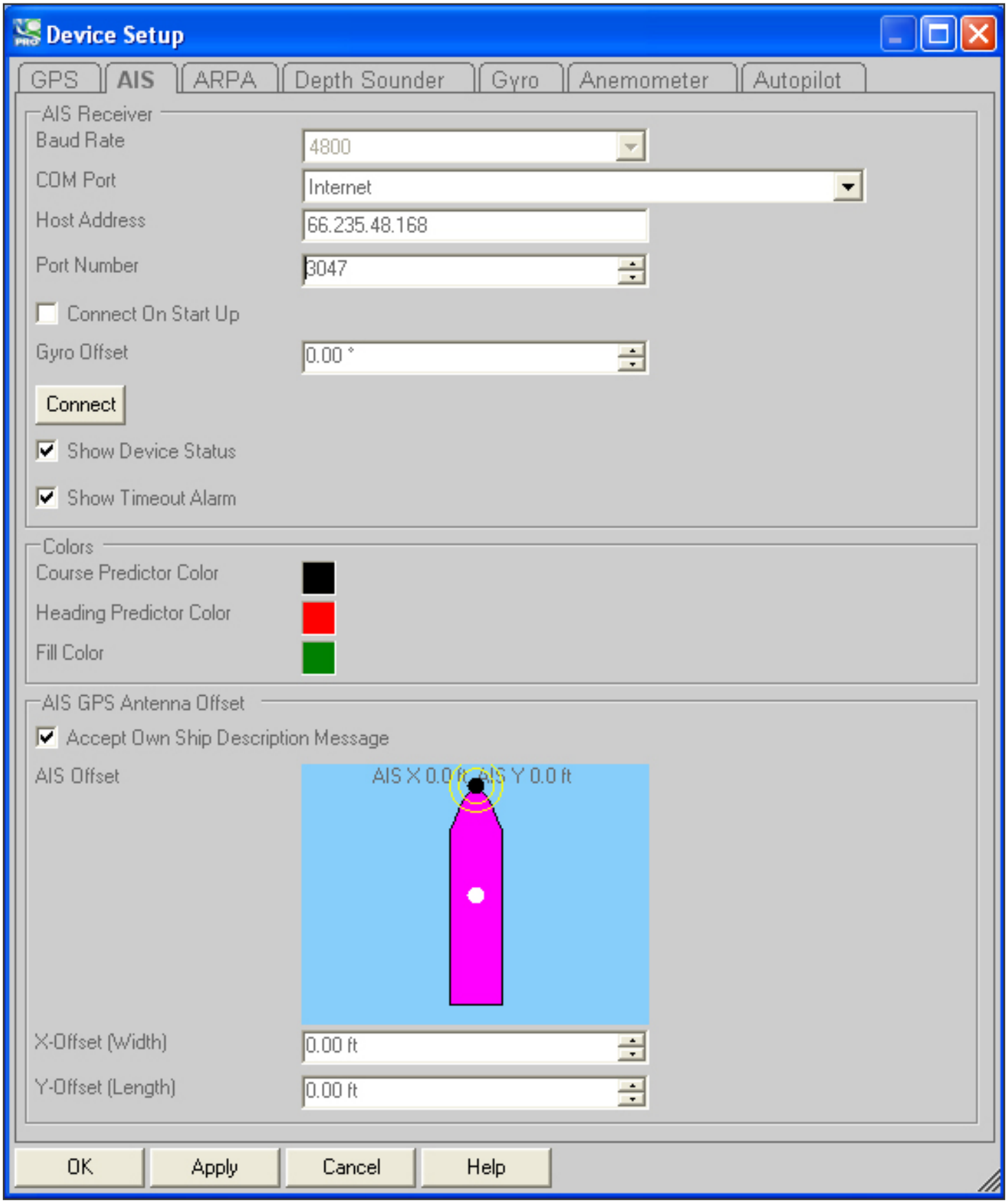
Connecting AIS

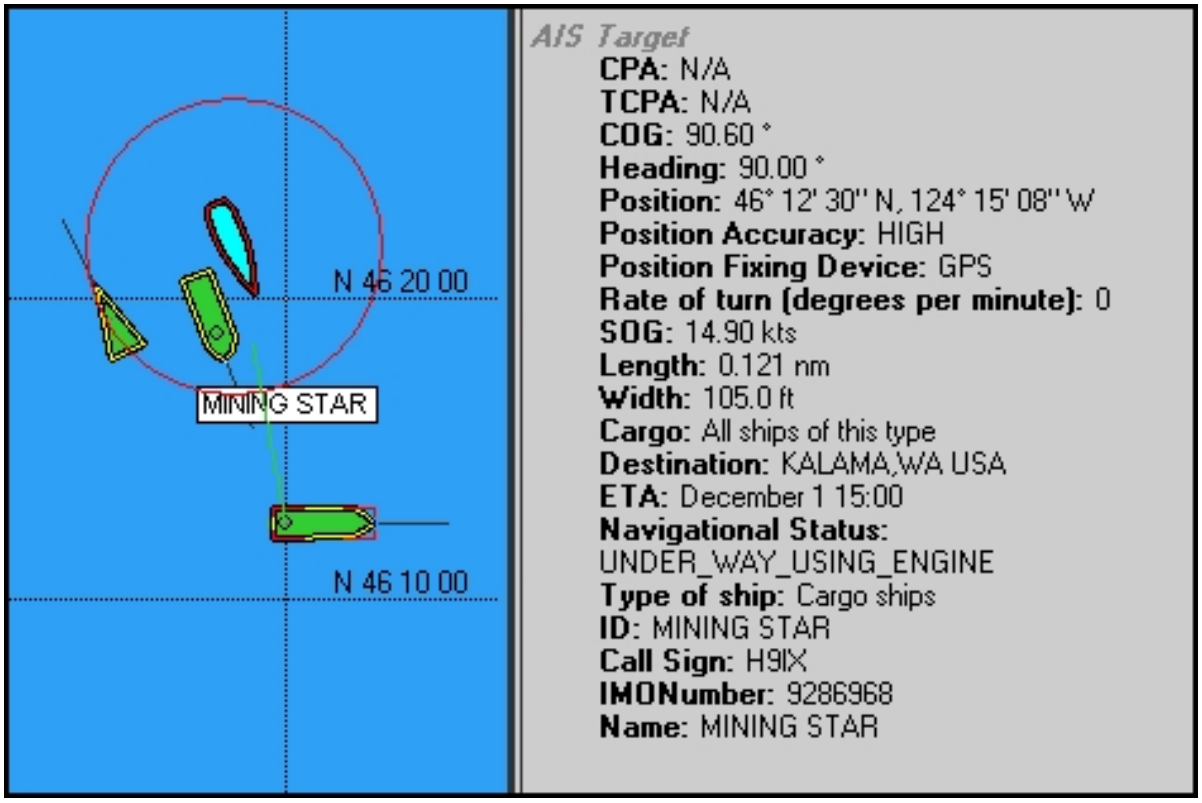
The program provides all available AIS information in an intuitive display on the active chart.

To get started with AIS, connect the receiver to an available serial port. For detailed information about connection to a serial port, see the Physically Connecting section of the GPS help. Once the device is physically connected, begin communicating with it using the Device Tools dialog or the Device Finding Wizard.

There is also an option to connect to web address, since some sites provide live AIS over the internet. To use this feature you must be connected to the internet, select "Internet" for the com port and set the host address and port number for the site providing the live AIS feed.



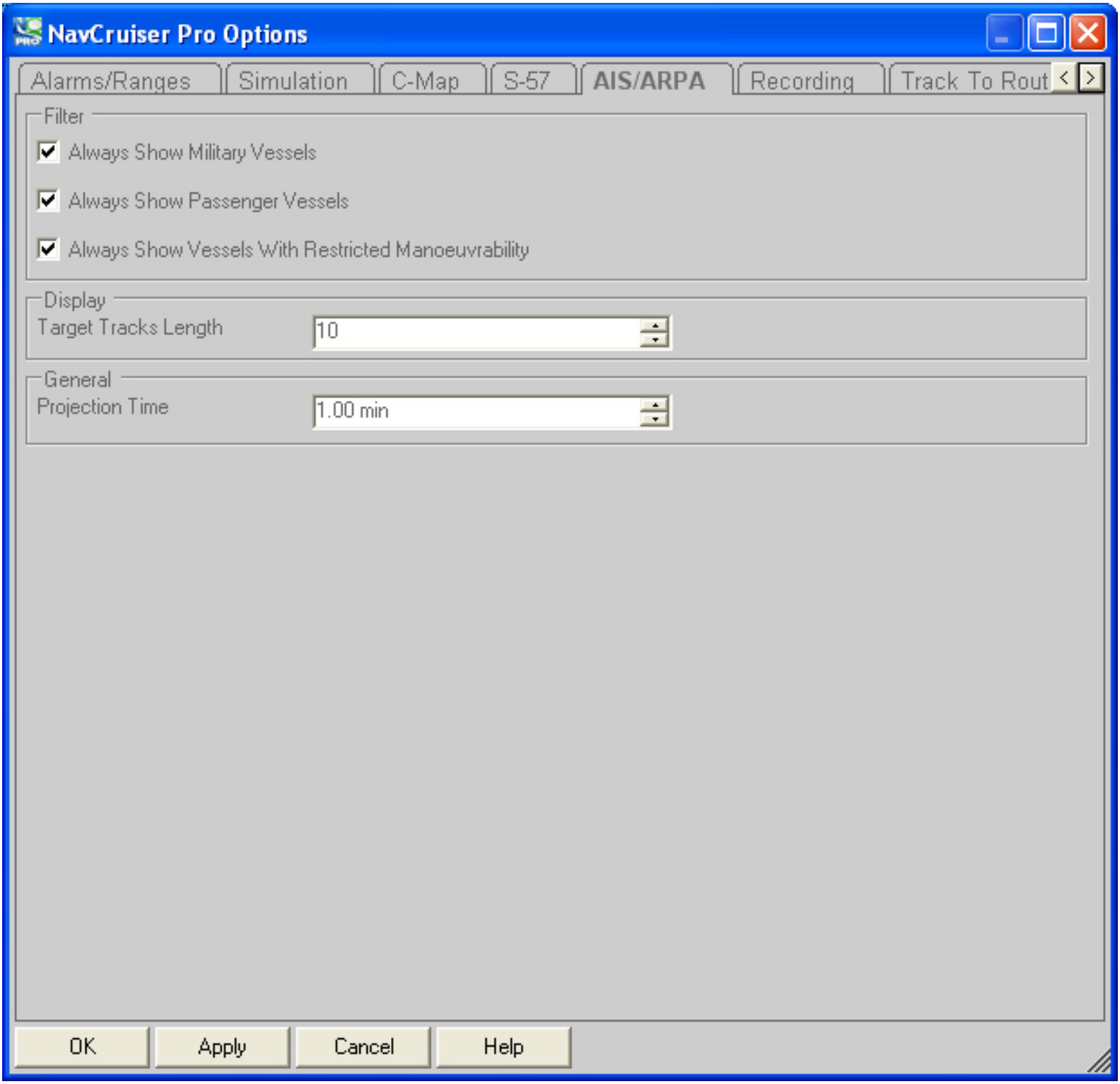
When AIS information is available, a display of all AIS-enabled traffic in the area of the boat will be displayed. The image below shows an example of what is visible.

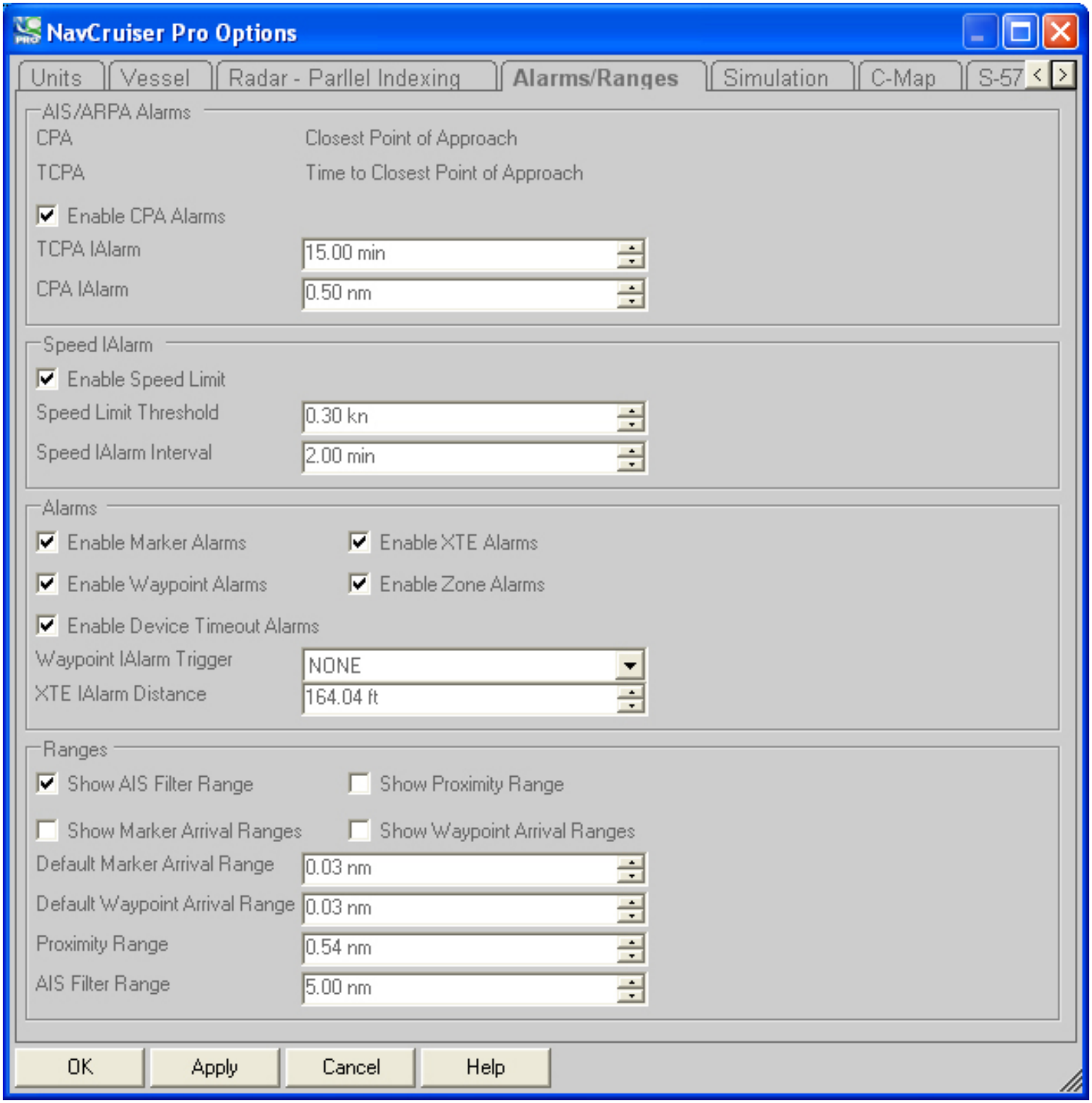


As this image shows, a variety of information is available for ships in range of the AIS receiver. In this case, we can see:

- Vessel name, call sign, identification information, and destination
- Vessel COG, SOG, length, width, and position
- ETA and Navigational Status

In addition to displaying current information, the program records a track of vessel position and displays predicted positions for all vessels visible in the AIS system. These features can be configured using the AIS/ARPA Options and the Alarms/Ranges Options pages.


NavCruiser Pro Options
Alarms/Ranges
Simulation
C-Map
S-57
AIS/ARPA
Recording
Track To Rout
Filter
Always Show Military Vessels
Always Show Passenger Vessels
Always Show Vessels With Restricted Manoeuvrability
Display
Target Tracks Length
10
General
Projection Time
1.00 min
OK
Apply
Cancel
Help



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AIS Icons

A number of icons are associated with the program's AIS system. These are summarized in the table below.

Objects outside the AIS Filter radius are drawn as dots.

- Objects for which length and width are not known are drawn as triangles.
- Objects for which length and width are known are drawn as an appropriately scaled boat.
- Objects travelling at greater than 0.5 knots are filled with green.
- Objects travelling at less than 0.5 knots are filled with yellow.
- Targets within the CPA and TCPA limits (set in the AIS Options) will appear larger and will be filled with red.
- If the connection with the AIS receiver is lost, all targets will be framed in red in place of yellow.
- If no update has been received in six minutes, a red stroke will be drawn through the icon.

One important addition to the AIS specifications unique to the program is the filtering of information outside a user-configurable radius. In order to reduce clutter, objects outside this radius are displayed as coloured dots as shown below. When an object is selected by left-clicking on it in the Chart View, it is fully displayed as if it were inside the filter radius.

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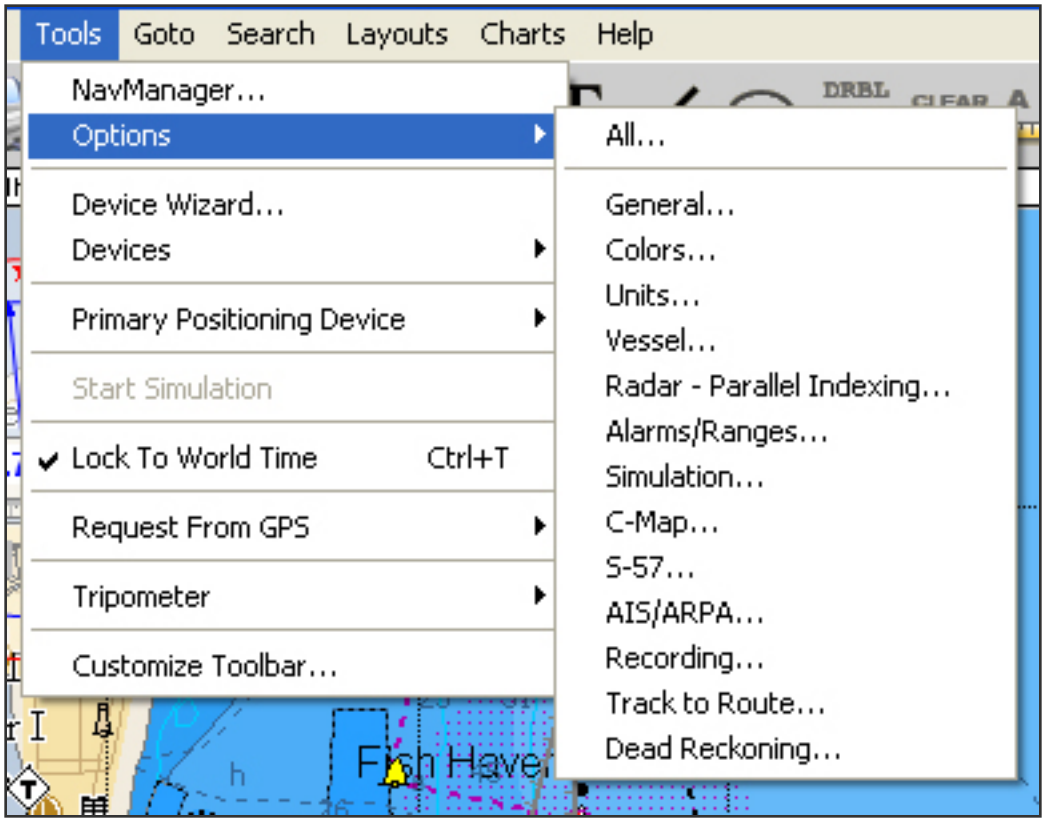
Options

- General Settings
- Colors
- Units Settings
- Boat/Vessel Settings
- Radar-Parallel Indexing (NavCruiser PRO only)
- Alarms/Ranges
- Simulation Settings (BoatCruiser 2.0 and NavCruiser PRO)
- C-Map Settings
- S-57 Settings
- AIS/ARPA Settings
- Recording
- Track to Route
- Dead Reckoning

The various program options can be accessed or set by using the Options page. The options menu can be accessed by selecting Options from the Main Menu as shown below.



Overall display and operational functionality of the program can be set using this Options interface. The settings have been grouped as General, Colors, Units, Units, My Boat/Vessel, Radar-Parallel Indexing, SkyRouter, Alarms/Ranges, Simulation, C-Map, S-57, AIS/ARPA, Recording and Dead Reckoning. Click on the tabs to navigate to each of the group settings. (Note: Skyrouter enables asset tracking and is available in customized applications only).

[main page] [site map]

General Options

The General Settings are used to change the general operational parameters of the program. Using this interface, various display parameters, along with the units of measurement, can easily be changed.

General:

Antialiasing: Toggle on to sharpen images.

Show Text Cell Units: Toggle on to view units in cells. Toggle off to see units in title of cell. This function is used if the units are taking up too much screen space in the cell.

Show Date In Arrival Times: Displays the arrival date to next waypoint or to destination. Toggle off to remove the data to view only arrival times.

Auto Load Charts in Single Chart Mode: When connected to GPS in Single Chart Mode, charts will automatically load if this function is enabled.

Bi-Directional Distance Tools: When using a distance tool such as a bearing tool the Bi-Directional tool will display the reverse angle if this option is toggled on.

Chart Borders: Toggle on to see borders, toggle off to hide chart borders.

Colour Mode: Change colour mode to Day, Dusk or Night.

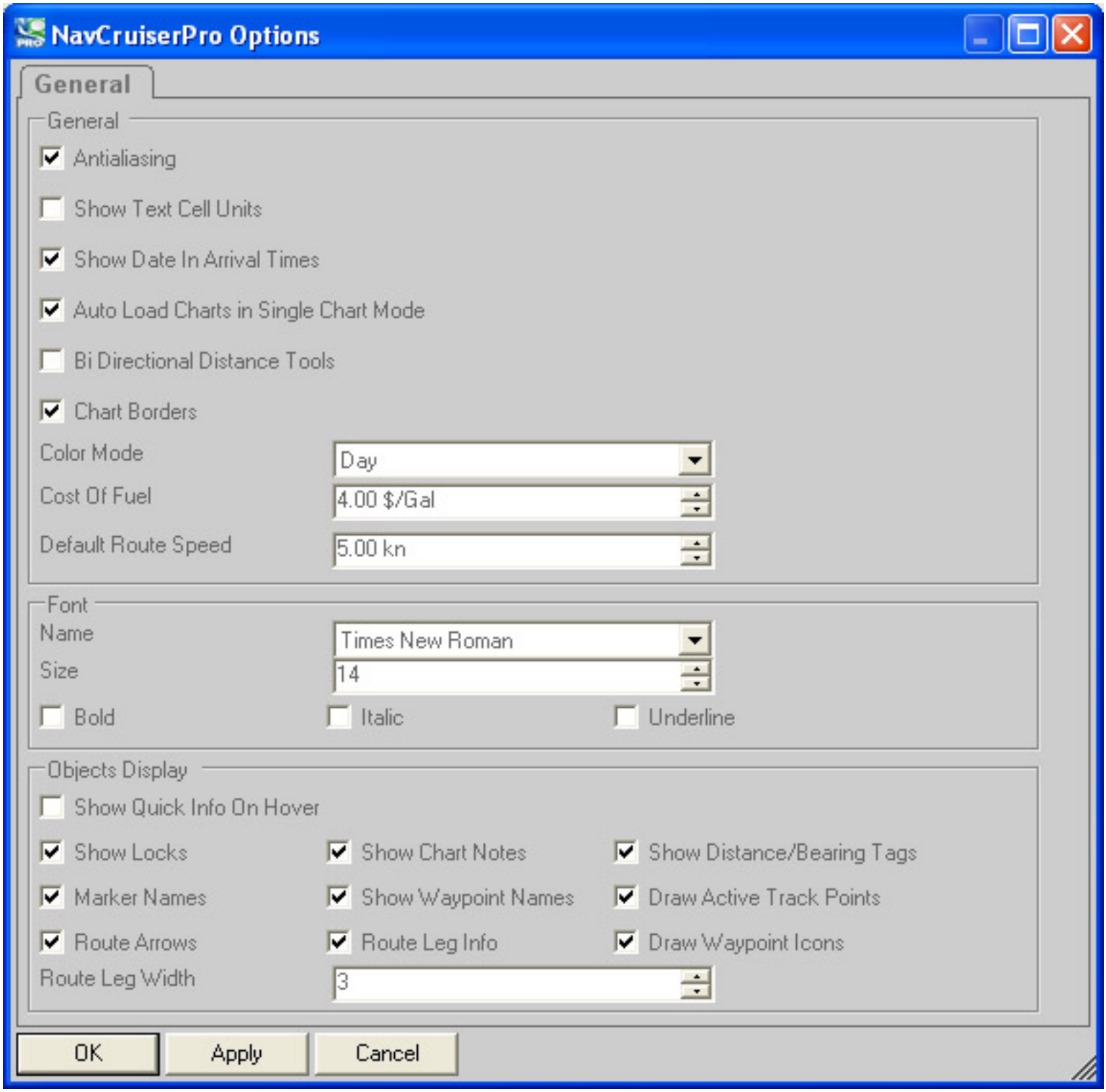
Cost of Fuel: The Cost Of Fuel needs to be set for fuel cost estimation calculations.

Default Route Speed: Change the default route speed.

Font: Allows for changing of text font. Ability to change font name, size and option to Bold, Italicise or Underline text.

Objects Display: Toggle by checking on or off objects that are to be displayed on the chart. The Route Leg width can also be increased or decreased in this section.

Show Quick Info On Hover - Determines if the quick info window will be displayed when the cursor hovers over an object. If this is off, then the quick info will only be displayed on click.



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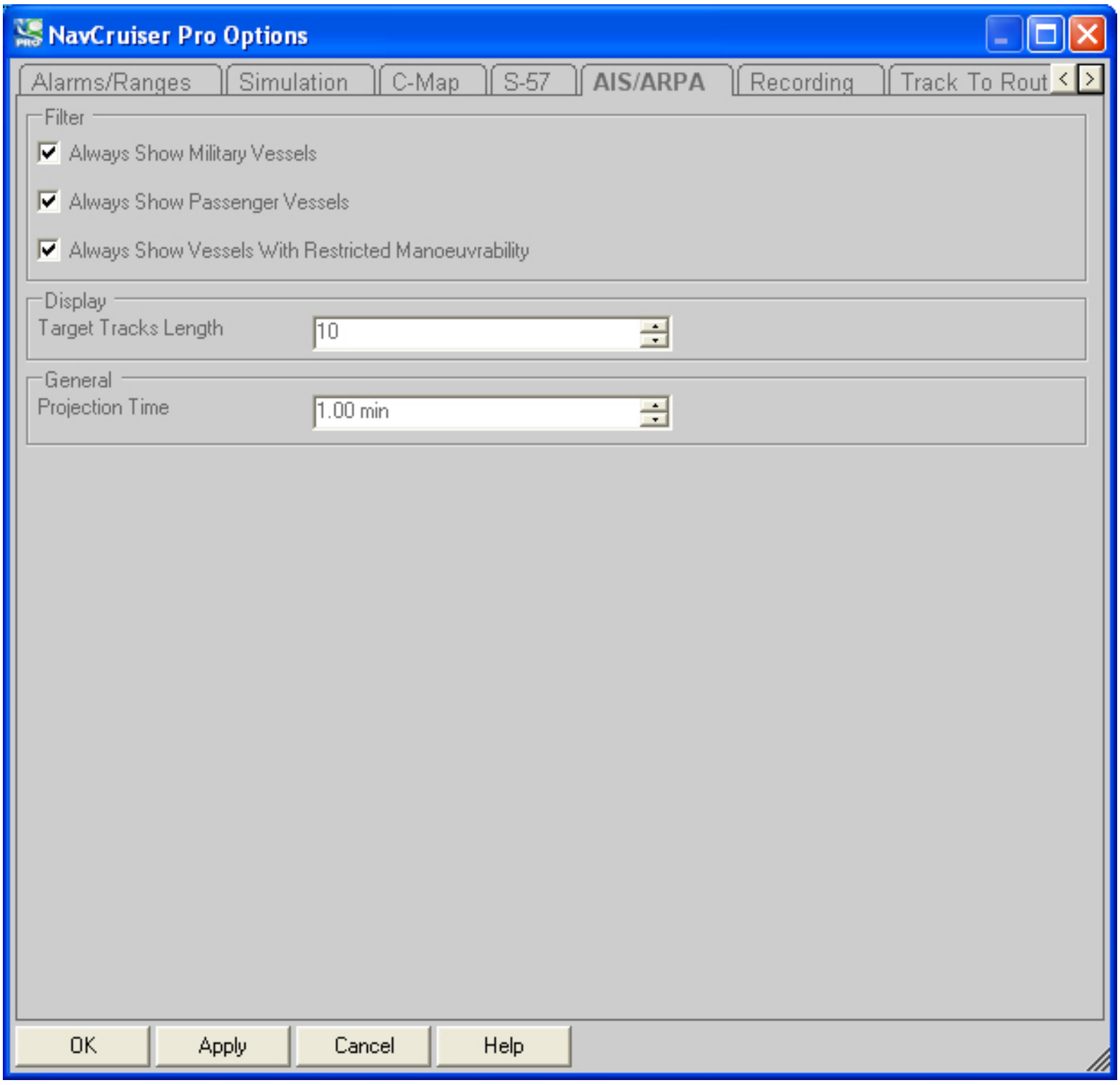
AIS & ARPA (Automatic Radar Plotting Aids) Settings

The AIS & ARPA Settings are used to alter various settings used when displaying AIS targets and radar information.

The Target Track Length setting is used to increase/decrease the length of the track (bread crumb display) of each AIS target in view. This feature allows the pilot to view a snapshot of how the vessels in the vicinity are maneuvering.



Alarms/Ranges Settings

AIS/ARPA Alarms

CPA/TCPA Alarm – Alarm that is triggered when the closest point of approach to the boat and any other AIS/ARPA target is less than the specified distance, or the time to the CPA (TCPA) is less than the specified time.

Speed Alarm

Enable Speed Limit – enables/disables speed alarms. A speed alarm is raised if the vessel speed exceeds the speed given on the current leg of the active route, by at least the threshold limit.

Speed Limit Threshold - amount by which speed must exceed the leg speed before the alarm is raised.

Speed Alarm Interval - amount of time that will elapse between speed alarms if the vessel speed does not come back down below the speed limit.

General Alarms

Enable Marker Alarms – enables/disables alarms for arrival/departure from markers.

Enable XTE Alarms – enables/disables alarms when the XTE (Crosstrack) exceeds XTE (Crosstrack) Alarm Distance. This is a warning that the boat is too far off course.

Enable Waypoint Alarms – enables/disables alarms for arrival/departure from waypoints.

Enable Zone Alarms – enables/disables alarms for entry/exit alarms for zones.

Enable Device Timeout Alarms - determines if an alarm is raised when a device (AIS/GPS) stops receiving data.

Waypoint Alarm Trigger – determines which alarms are triggered for waypoint.

XTE Alarm Distance – distance that controls when the XTE alarm is displayed.

Ranges

Show AIS Filter Range – turns on/off drawing of the AIS Filter Range Circle around the boat.

Show Proximity Range – turns on/off drawing of the Proximity Range Circle around the boat.

Show Marker Arrival Range – turns on/off display of arrival range circles around markers.

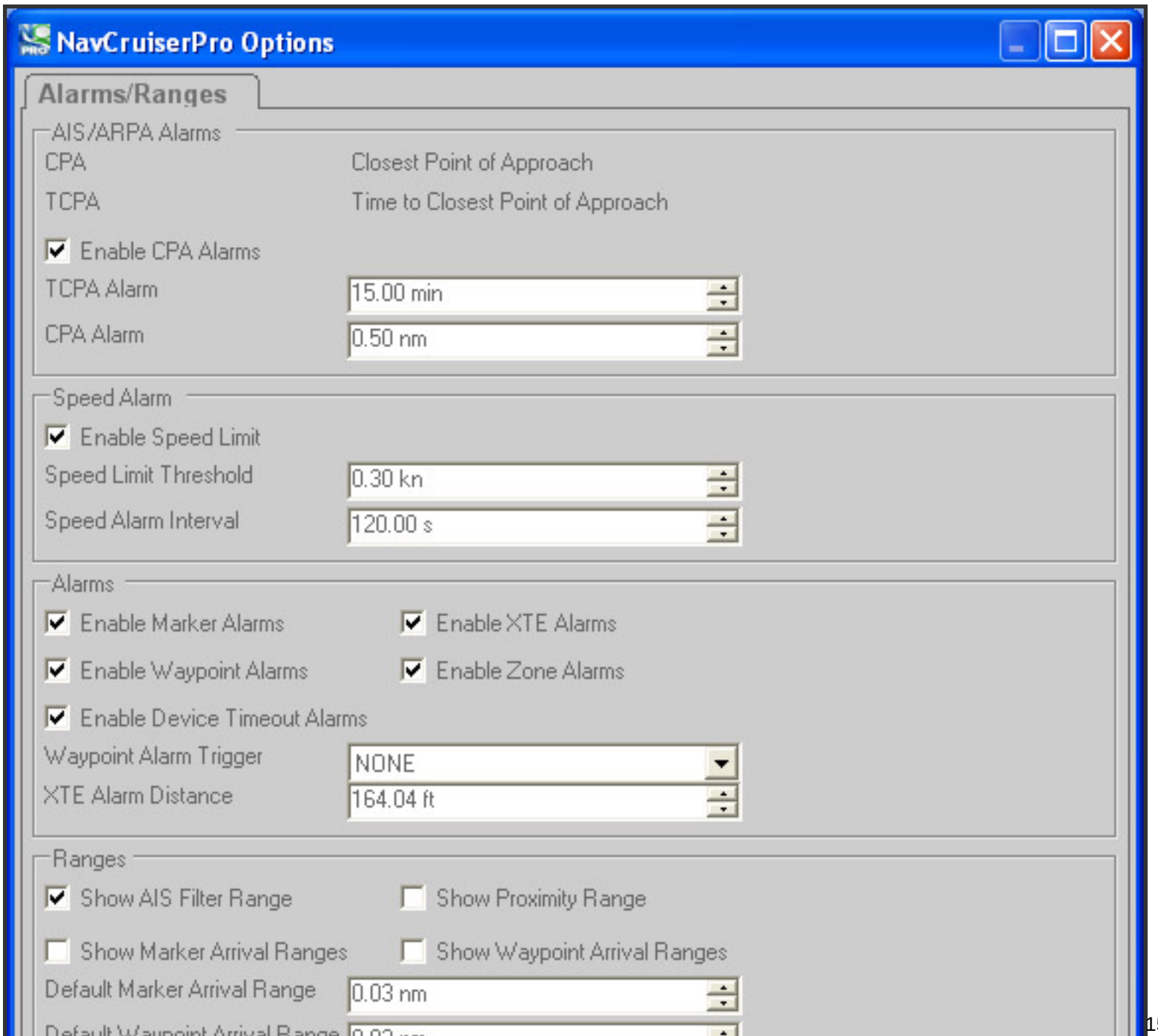
Show Waypoint Arrival Range – turns on/off display of arrival range circles around waypoints (works only if route is activated).

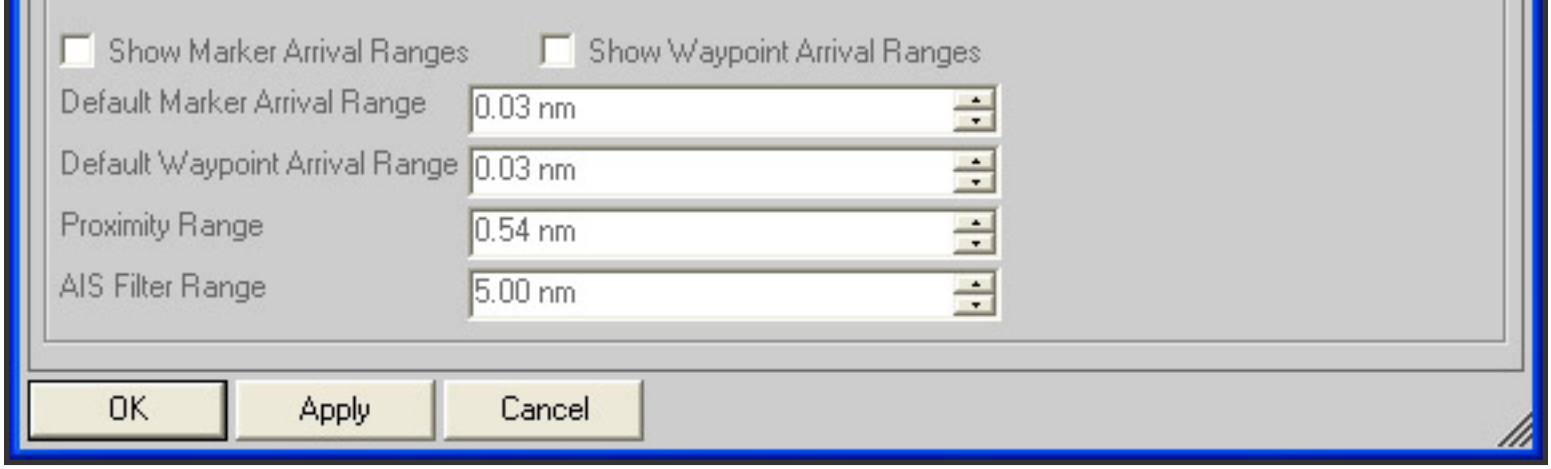
Default Marker Arrival Range – the value that will be set for the arrival range of new markers

Default Waypoint Arrival Range – the value that will be set for the arrival range of new waypoints

Proximity Range – determines when to draw distance bearing tags to objects and when objects should be drawn in the highway view.

AIS Filter Range – AIS targets outside the AIS filter range are shown as dots on the screen to reduce clutter. AIS targets outside the AIS filter range are also controller by the filter options in the AIS/ARPA tab.





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Working With An Anemometer

- About Working with an Anemometer
- Physically Connecting to the Anemometer
- Configuring Anemometer Communications

About Working with an Anemometer

NavSim software is designed to be linked with an Anemometer receiver in order to display the Apparent Wind and/or True Wind. Once connected and configured, the Anemometer can greatly enhance the level of data provided our software.

Physically Connecting to the Anemometer

This program supports Anemometer receivers capable of outputting NMEA-0183 compliant string. Please check the user manual for the Anemometer receiver if unsure of its capabilities.

The communication link from the Anemometer receiver to the computer is established in one of two ways, depending on the Anemometer receiver used:

Serial communication over an RS-232 cable with a DB-9 connector.

Typically a communications cable will come with the Anemometer receiver that has a DB-9 Female connector (as shown) on one end to connect to the PC's serial port (also called a COM port), and another connector on the other end of the cable to connect to the Anemometer receiver.

If the Anemometer receiver has a connector for hooking into such a cable, but the cable is missing, a

	replacement may be available from the manufacturer of the receiver or a local marine outfitting store. **Note:** A serial to USB converter can also serve as an option if the laptop does not have a serial port.

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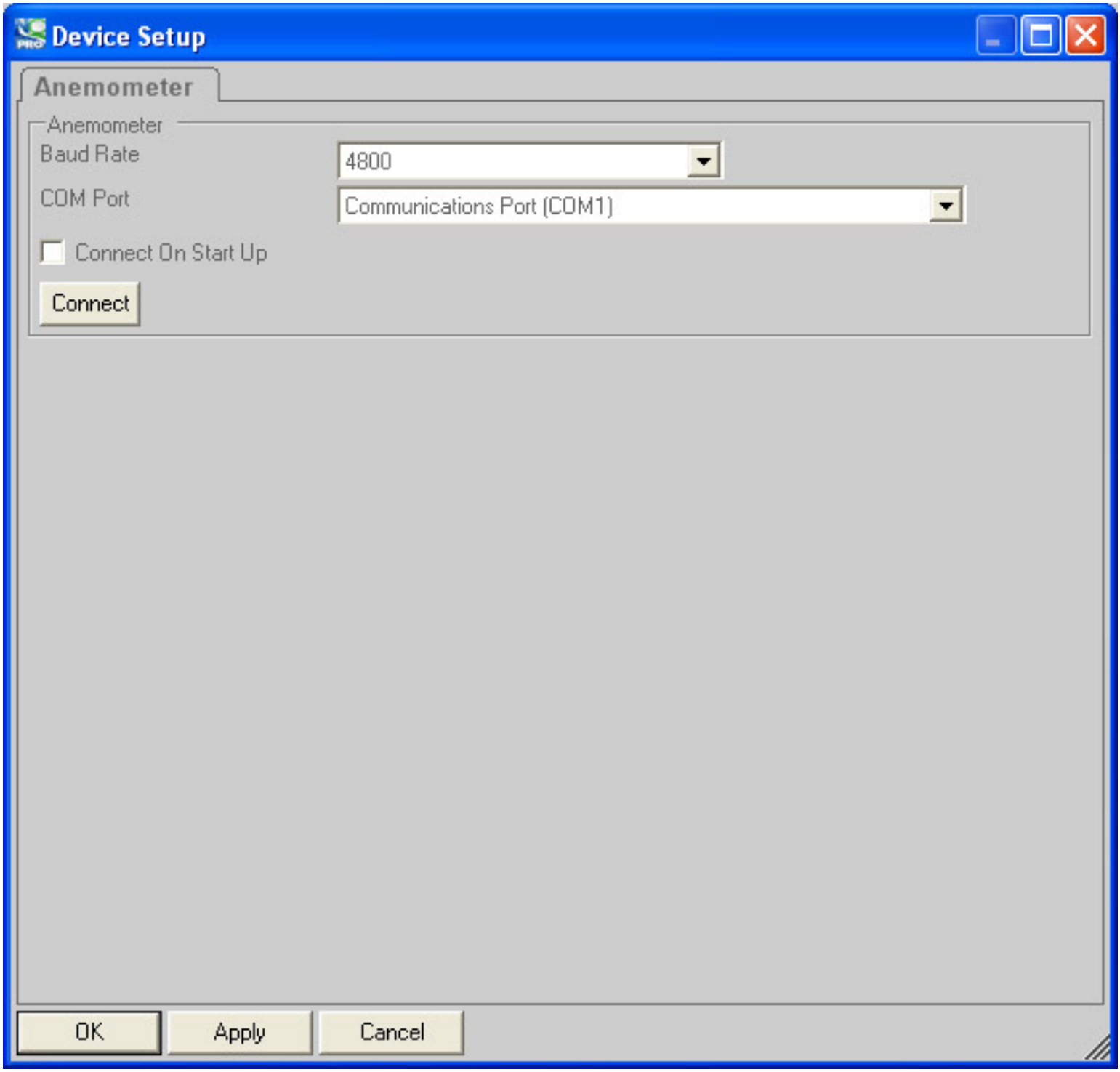
Configuring Anemometer Communications

Once the hardware is connected to the computer, the software can be configured to display the information using the Device Finder Wizard or through the GPS dialog in "Tools->Devices->Anemometer". If an Anemometer device is configured through the Device Tools dialog, be sure to set the correct Baud Rate for the receiver. This baud rate can usually be found in the receiver documentation and can even be configured on some units. If a connection is not immediately established , different COM ports and baud rates may have to be tested in order to find the correct combination.



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Anemometer Functionality

The Anemometer can measure both Apparant Wind speed and direction, and True Wind speed and direction. Apparent Wind is the wind that a sailor feels as they move with the wind. True

Wind is the wind relative to True North, and is essentially felt when the sailor is stationary.

The option to turn on/off Anemometer data filtering can prove quite useful. The data filtering reduces jumping of wind data by calculating the average wind direction to achieve a more stable reading.

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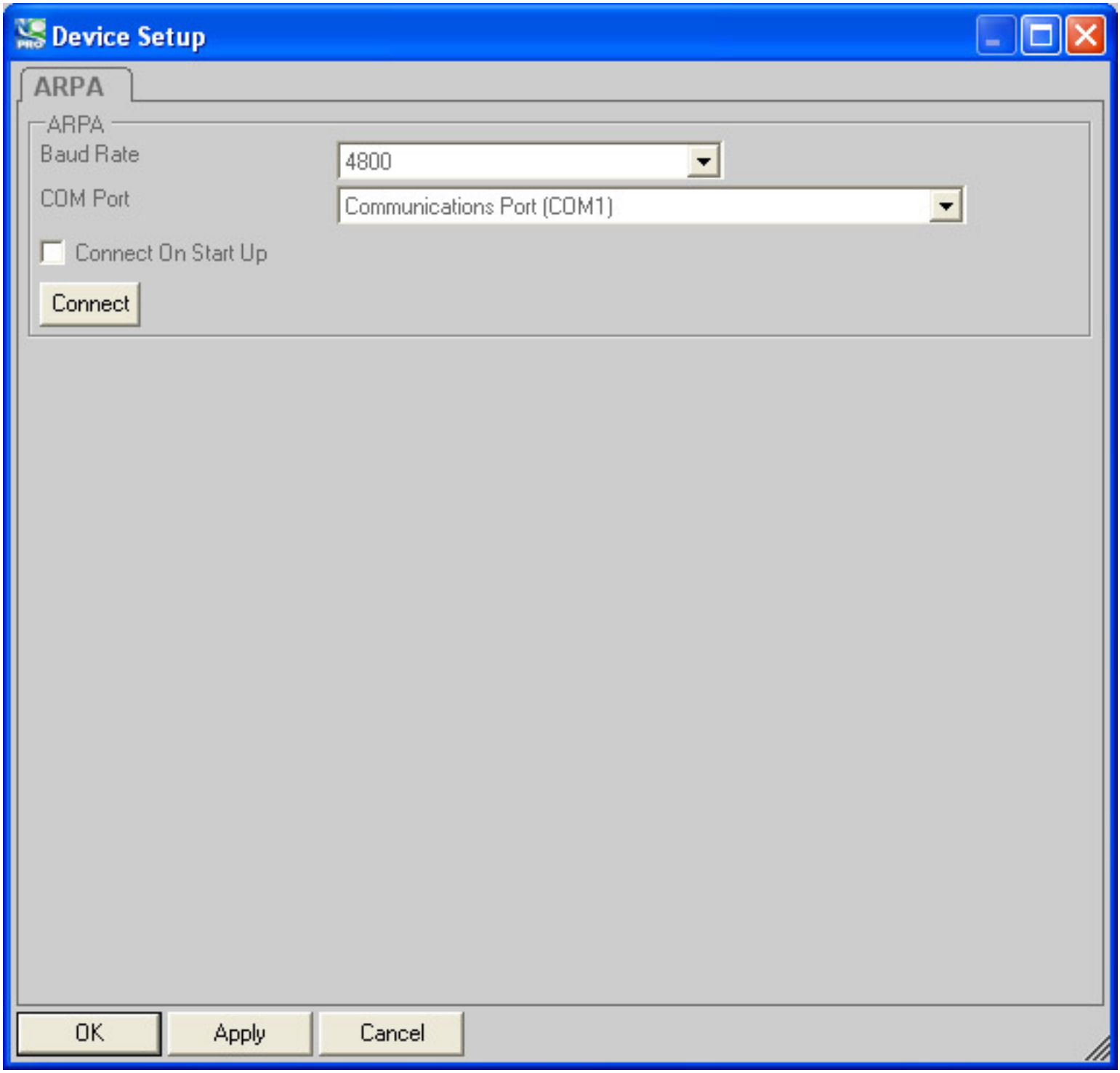
ARPA



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Using Your Autopilot

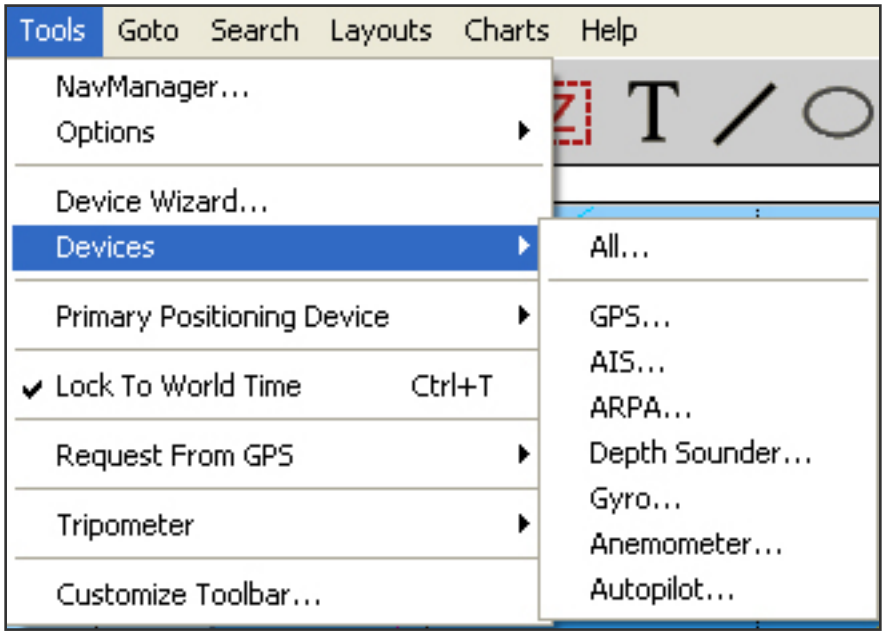
Note: The use of an external autopilot with BoatCruiser, Sailcruiser or NavCruiser PRO is meant as a navigational aid. Please consult the autopilot documentation with regards to the proper method to engage, disengage the autopilot using an external navigator, use in different sea conditions and for proper use in emergencies.

- Setting Up And Configuring Autopilot
- Using The Program with your Autopilot

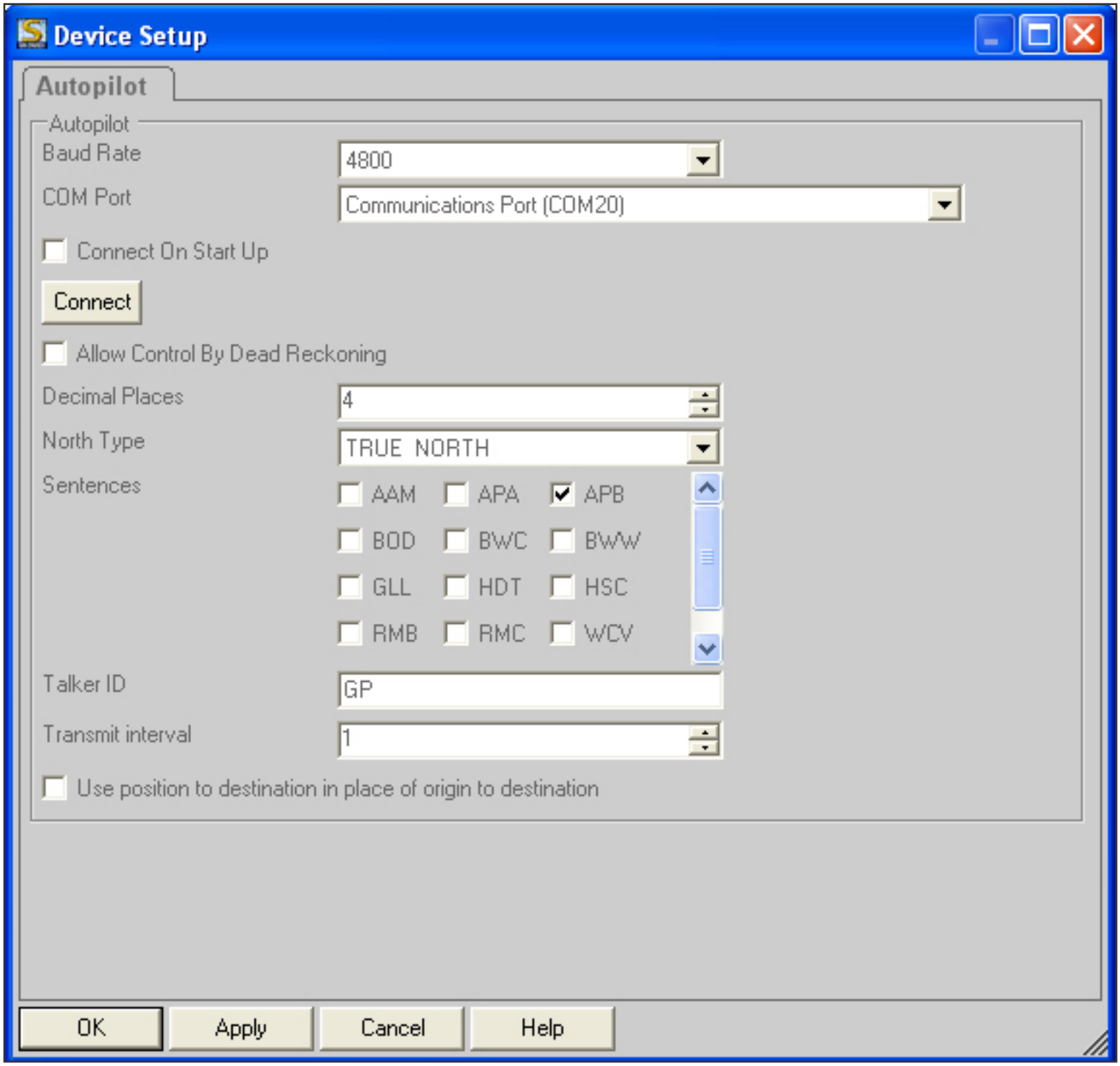
Setting Up And Configuring Autopilot

The instructions of the autopilot contain information on connecting a NMEA navigator with the Autopilot. The Autopilot documentation should be followed before this documentation. To connect the autopilot to the program running on a laptop or personal computer a separate RS-232 to NMEA-0183 converter is required. This converter will allow the data coming out of the PC to be converted to proper NMEA-0183 data. Please contact the autopilot manufacturer or local autopilot retailer for more information regarding this product.

Use the Device Finding Wizard or advanced Device options to setup the autopilot. The device settings menu can be accessed by clicking on the Devices option from the Tools menu from the menubar as shown below:



Clicking on the Devices option from the Tools menu yields the advanced Devices options where various autopilot settings can be changed.



Note: Please consult with the autopilot vendor manual before changing or selecting any of these options.

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Using The Program With Your Autopilot

Follow these steps to use the program as a NMEA-0183 navigator in conjunction with the autopilot:

- When ready to use the autopilot interface of the program, configure the Autopilot Settings and click on the connect button.
- Plan a Route that is to be followed. At this point, the boat direction and speed should be as outlined in the requirements for the autopilot. For example, some autopilots have the requirement that the current heading is within 5 degrees of the required heading to follow parallel to the line between the waypoints.
- At this point, right click on the waypoint that the autopilot would navigate from.

  This will bring up the Route Context Menu. Select the

Activate Waypoint option. The waypoint that is being navigated towards will then have a red circle around it signifying the target waypoint. When the boat enters this circle, the program will begin navigation to the next waypoint in the route.
- The program can be stopped from acting as a Navigator at any time. Simply right-click on any waypoint in the active route. This will bring up the Context Menu.

  Select the

Deactivate Route option to stop the program from acting as a Navigator in conjunction with the autopilot attached.

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Autopilot Setup

Most commercial autopilots will have documentation on connecting to a NMEA navigator. Any documentation included with an autopilot should be considered to supercede this document. To connect the autopilotdevice to the program, a purchase of a separate RS-232 to NMEA-0183 converter may be required. This converter will convert serial data from a computer serial (COM) port to proper NMEA-0183 data. Please contact the autopilot manufacturer or local autopilot retailer for more information regarding marine electronic components such as this.

To configure the program to use the autopilot, use the Device Finding Wizard or advanced Device options. Once the autopilot has been configured, consult the Using Your Autopilot section.

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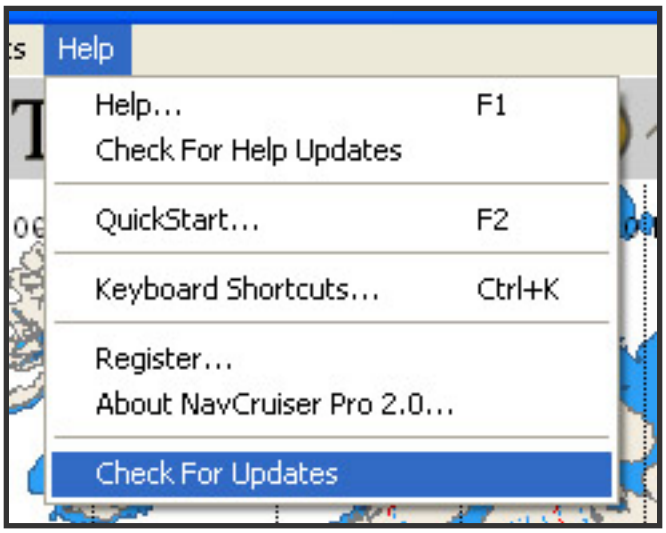
Automatic Updates

All of the latest versions of NavSim's navigation software feature an automatic update process, making it very simple to obtain the latest updates/fixes. On startup, the software checks the NavSim website for updates. If there is an update available, the option to download and install the new update will appear. By clicking yes, the latest update will be downloaded and installed. During this process the software will need to shut down so the update can take place. Once the update is installed, the software is automatically restarted.

Updates can also be downloaded manually by using "Check For Updates" in the help menu.

Help is not updated during an automatic update. To get the latest version of help, click "Check For Help Updates" in the help menu.



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Using C-Map C-cards

About C-Map C-card

The program supports C-Map C-cards offering a quick and easy way to save Routes, Markers and Trajectories to the C-card and transfer them between the PC and C-Map NT/MAX compatible electronic charting system or plotters.

Please refer to the C-Map C-card manufacturer documentation for help in setting up the C-card reader on the PC.

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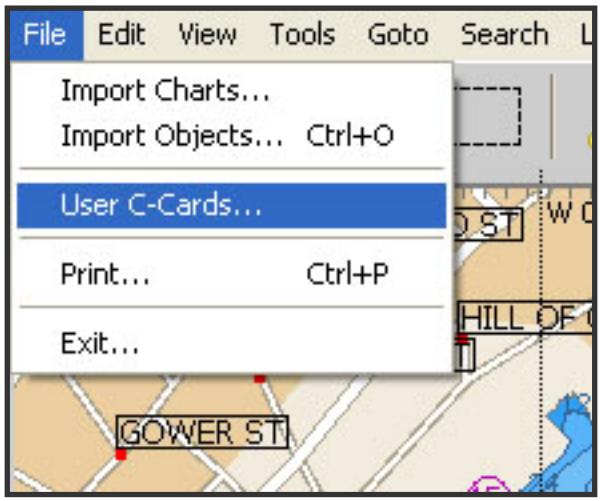
Using C-Map C-card

The program's C-card Management Tool provides an easy way to export and import data to and from the C-card.

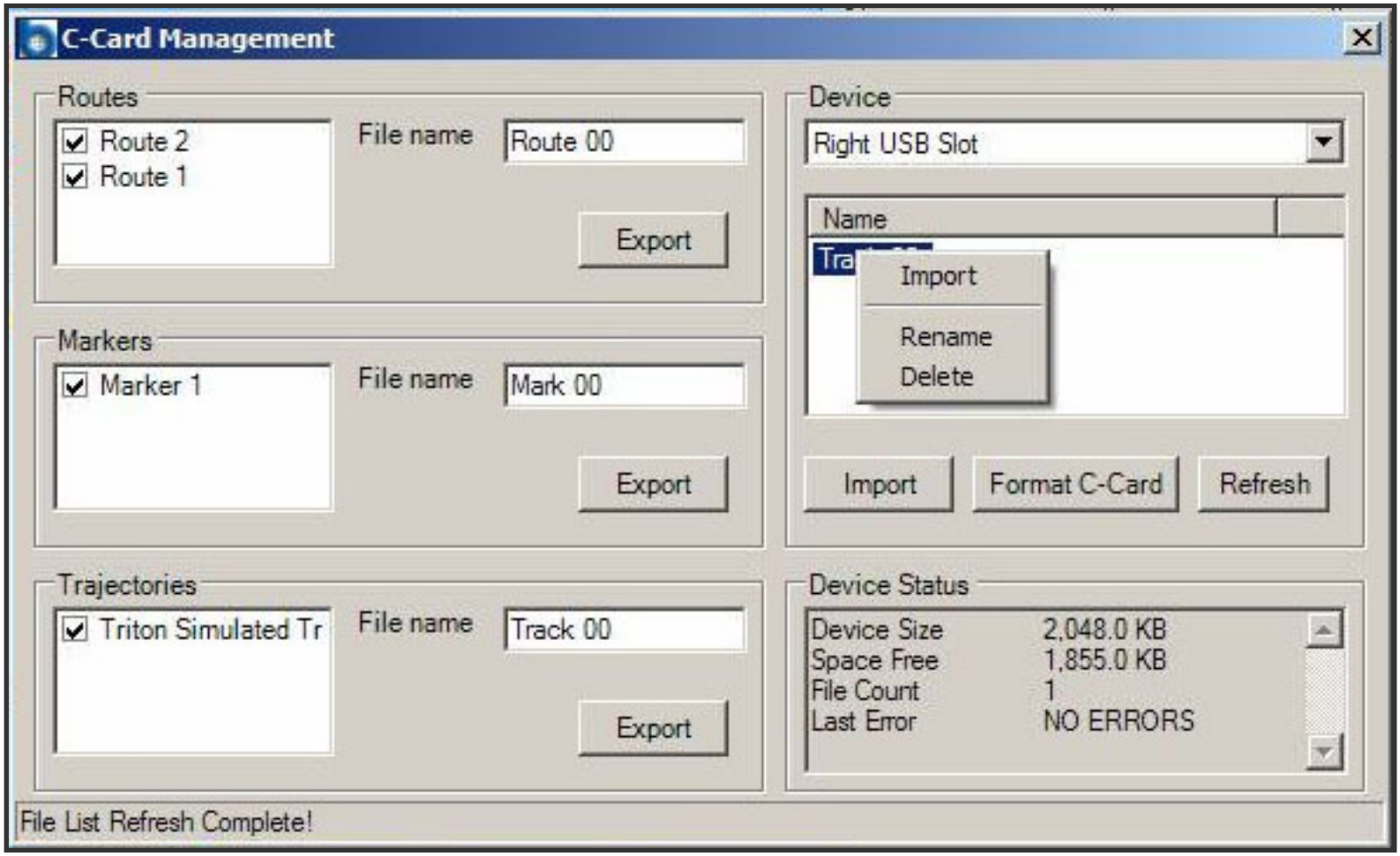
In addition to exporting and inporting objects to/from a file on the C-card, the C-card Management Tool can also be used to Format C-cards, Rename Files and Delete Files.

The C-card Management Tool can be accessed using the Main Menu.



Clicking on the User C-cards option from the File menu displays the C-card Management Tool.

Click the Refresh button to refresh the File view.



Exporting objects to the C-card:

The objects to be exported are on the left, files on the C-card are on the right.
Check the objects that need to be exported to the C-card (all are checked by default). The File Name that all the objects will be exported to also need to be specified (the default file names are “Route 00”, “Mark 00”, and “Track 00”). C-cards allow only one type of object per file.

Importing objects from the C-card:

To retrieve data from the C-card, simply use the Import button (imports all files) or right click on a file to import that file only.

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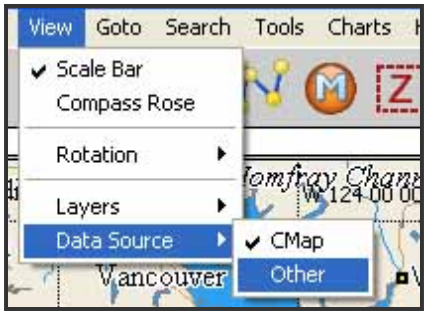
Tides & Currents

- About Tidal Data
- C-Map Tidal data
- Importing Tidal Data
- Maptech Tidal Data

About Tidal Data

The program supports two types of data sources for Tidal data; C-Map and Maptech. They are never displayed to the user at the same time. In order to toggle between the two Tidal data sources, the chart data source needs to be changed using the Main Menu as shown below:



The Tidal and Current Data (if available) is displayed on the chart view as well as the Time Slider panel.

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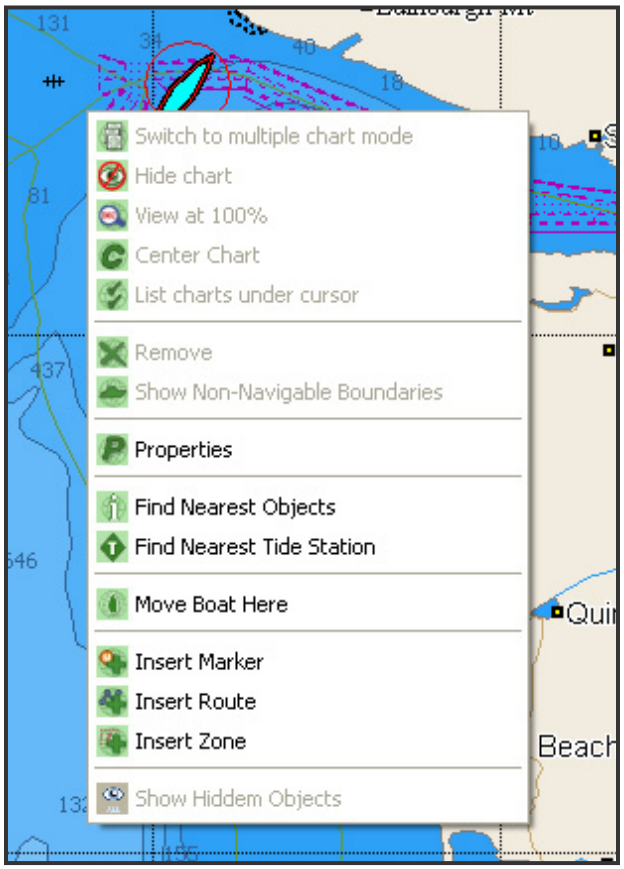
C-Map Tidal Data

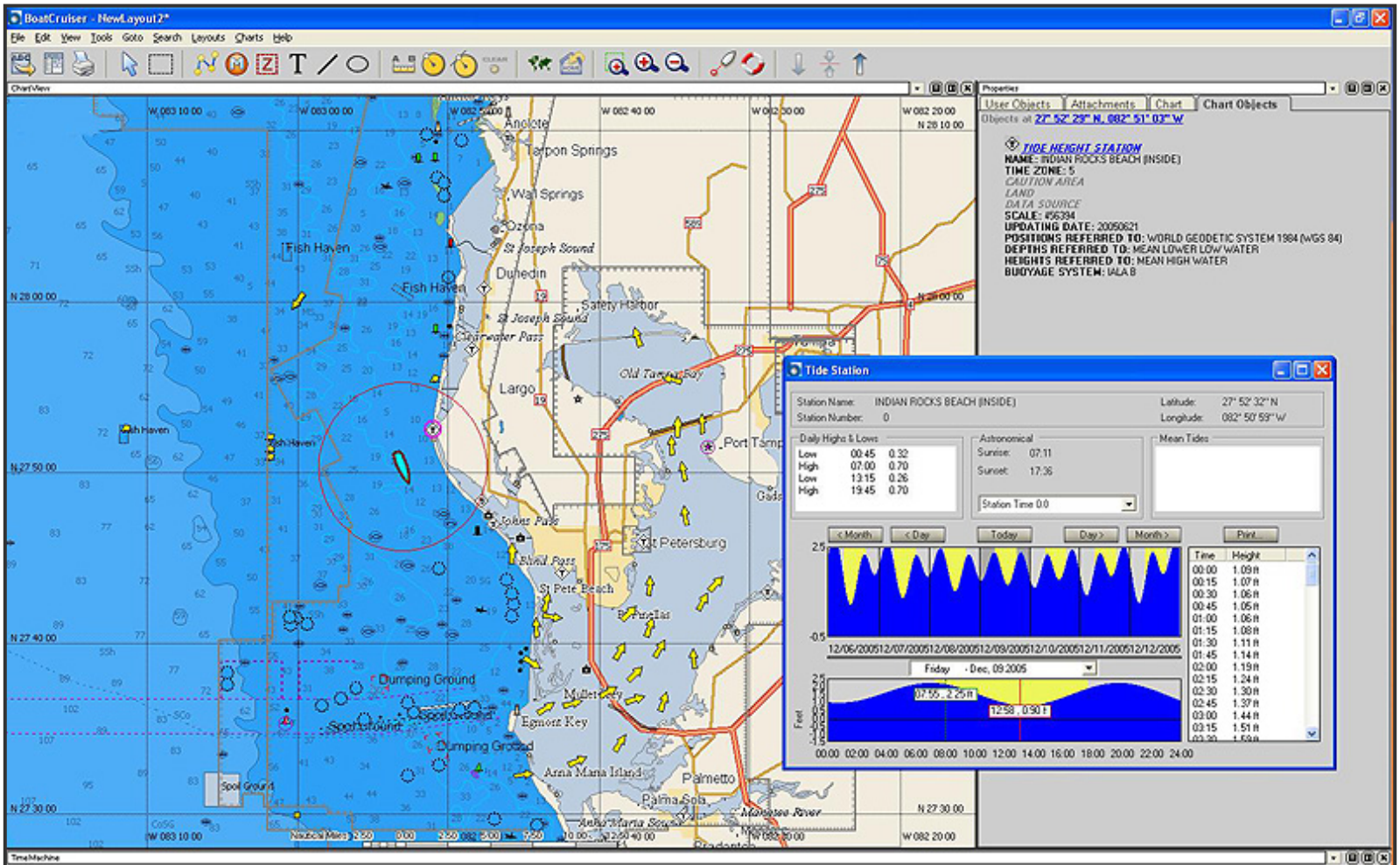
The program supports Tidal data for two types of C-Map charts, NT and Max. Tidal data comes bundled with the charts therefore data does not need to be imported or installed prior to viewing it.
C-Map Max charts contain more data pertaining to a tide station than NT charts.

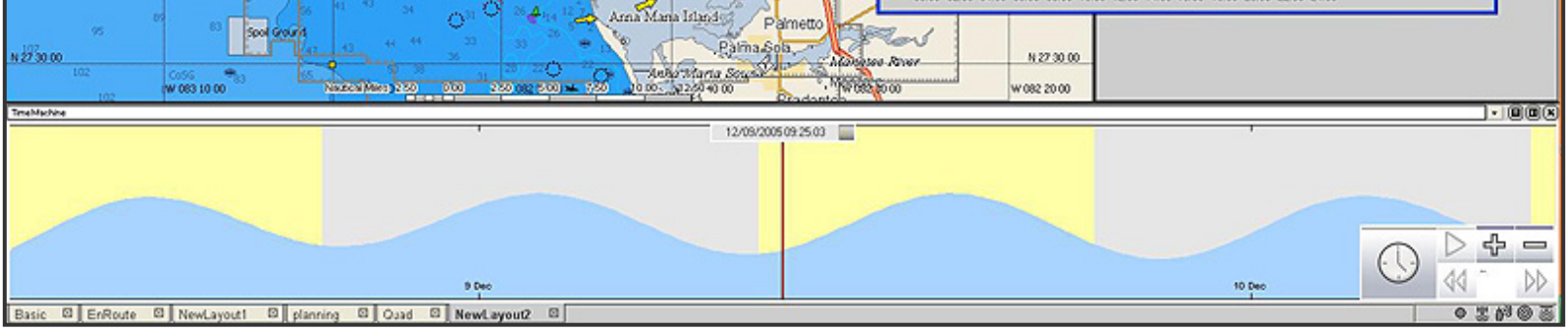
In order to search for the nearest Tidal station, simply right-click on the Main Chart View or the boat to display the Context Menu and then click on the Find Nearest Tide Station option as shown below:



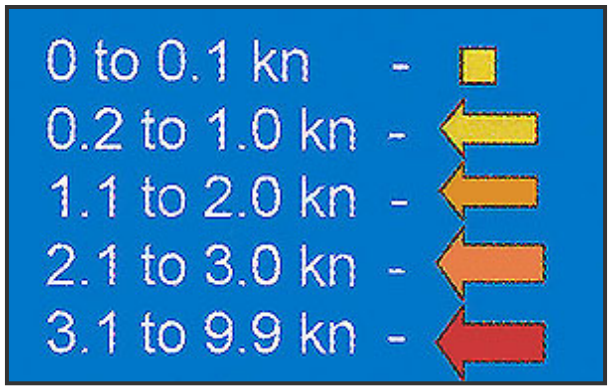
Tidal Stations are displayed with the icon. In the chart objects tab of the Properties page, Tide Station links are displayed in blue and underlined. Clicking on this link opens the tide dialog for that station with respect to the current time.

Double-clicking on the icon also displays the Tidal dialog window as shown below. Note that a magenta circle is drawn around the Tidal station nearest to the boat.





With C-Map data, Tidal streams (currents) are displayed as arrows on the water. The colors range from yellow to red, the darker the color, the faster the current. Currents change with time and therefore it is very useful to see how the currents vary with time for a particular region of interest. This time based animation is accomplished by using the Time Slider cell of the program. The time based Tidal stream animation can easily be seen by unlocking the TimeSlider from real time and moving the TimeSlider back and forth in time. The current arrows will show direction and speed (color) for the time displayed in the TimeSlider.
Color-coded tidal arrows provide information on current direction and strength (see table below for current strength color code)



Please read the help section on Reviewing Tides with the TimeSlider for more information.

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Importing Tidal Data

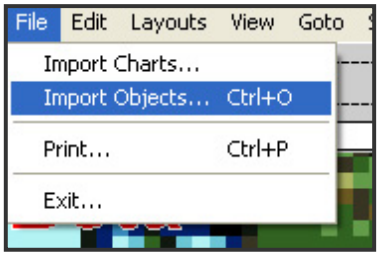
In order to use Maptech Tidal information, Tidal Station data first needs to be imported into the program. Once imported, you can browse the Tidal information for any imported Tidal station by any date and time of the day.
Files containing Tidal information usually have an extension of the types .D1, .D2, .S1, .N2. There will be a T or C in the filename to indicate whether it's a file of tide or current stations, along with the year for which the data is valid.

Such files can easily be imported into the program by using the Object Import Wizard. Click on the Quickstart icon from the main toolbar which displays the Wizard options.

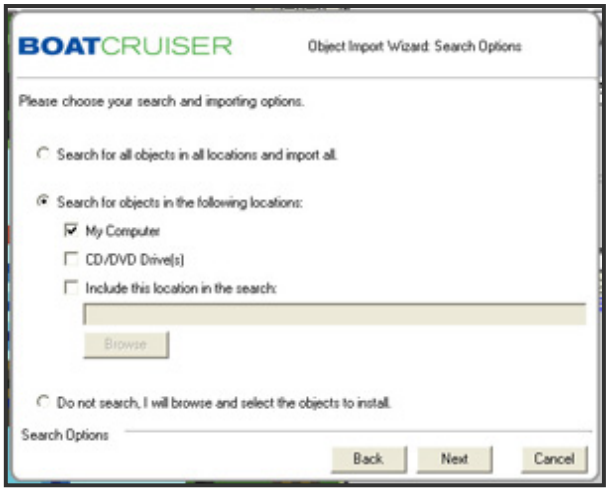
Welcome to
BOATCRUISER
QuickStart Menu
• Wizards perform tasks for you (ex. Importing charts from your computer)
• Tutorials show you how various features work (ex. AIS)
You can access the Quick Start Menu anytime by clicking on in top menu bar.
Wizards
Tutorials
Chart Import Wizard
Import charts from your computer.
Device Finding Wizard
Find and connect to devices attached to your computer.
Object Import Wizard
Import objects from your computer.
Show on startup
Close

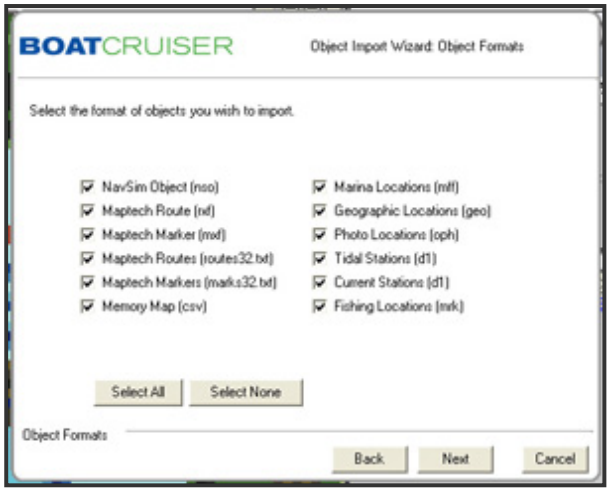
Select Object Import Wizard and follow the step-by-step instructions to import Tidal data into the program.

Tidal Station data can also be imported into the program using the Main Menu as shown below:



Clicking on the Import Objects displays the search options that the program uses to search for files of various data types (including Tidal Station data).


BOATCRUISER
Object Import Wizard: Search Options
Please choose your search and importing options.
Search for all objects in all locations and import all.
Search for objects in the following locations:
My Computer
CD/DVD Drive(s)
Include this location in the search:
Browse...
Do not search. I will browse and select the objects to install.
Search Options
Back
Next
Cancel



Once the Tidal Station data are successfully imported you can view them using BoatCruiser/NavCruiserPRO/SailCruiser Tidal Station display.

Read the help section on Maptech Tidal Data on how to display Maptech Tidal data.

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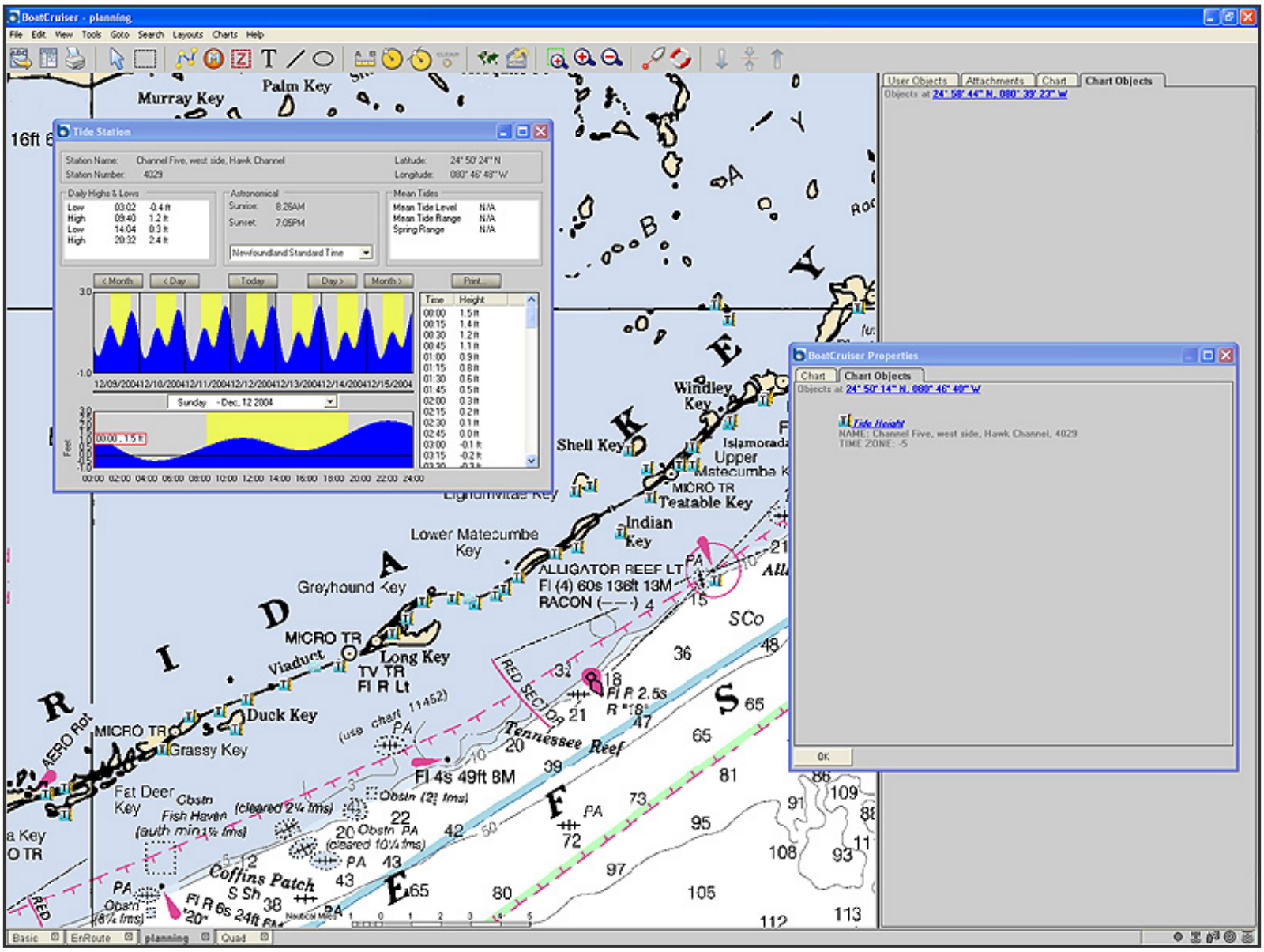
Maptech Tidal Data

In order to use Maptech Tidal information, Tidal Station data first needs to be imported into the program. In the case that Tidal data has not been imported into the program, learn how to do so by reading the help section on Importing Maptech Tidal Station data.

Once imported, the Tidal Stations appear with a T icon. Double clicking on the T Tidal Station icon will display the Tidal Station display as shown below.



Please note that currently MapTech Tidal data is not viewable in the TimeSlider cell. Future versions of the program will display Maptech Tidal data the same way as C-Map tidal data.

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C-Map Options

The C-Map settings are used to change the display settings of C-Map Charts only. These settings do not affect the display of Maptech, S-57 or any other Charts. By default, all Chart objects are displayed. If needed, the display of individual Chart objects can be turned on or off.

There is an additional setting found to be very useful called Enable Chart Lock. This setting prevents over-zooming of C-Map Charts. For example, the program will allow zooming of C-Map Charts up to the maximum zoom-level where Chart data can be displayed. Any zoom level higher than this would display a grey area on the screen if this setting is not selected.

General

Cartridge Priority - Determines the priority of objects on the chart, depending on the cartridge type.

Marine Presentation Mode - Determines the symbols to be used for display of marine objects (buoys, lights, etc). Symbols can be either International or American.

Point Of Interest Mode - Determines how points of interest are displayed. Can be icon only, text only, or icon and text.

Text Rotation - Controls how text is displayed when the charts are rotated. Select no rotation to keep the text horizontal, even when rotated. Otherwise the text will rotate as the chart is rotated.

Icon Text Size - Controls the size of icons and text (normal, medium, large)

Enable Anti Clutter - Option to allow C-Map to filter out objects to reduce clutter. If this option is turned off, no filtering will be performed and all objects will be displayed (depending on options below).

Enable Object Overlap - Determines if objects can be drawn from levels other than the current chart level.

Show Value Added Data - Controls Display of value added data (photos, points of interest, etc.)

Use Human Data Dictionary - Controls the amount of information displayed for C-Map chart objects. If this is off, then more advance information will be displayed such as lat/lon offste, chart datum, buoyage system, etc.

Grid - Determines whether or not the grid lines will be displayed.

Depth Settings

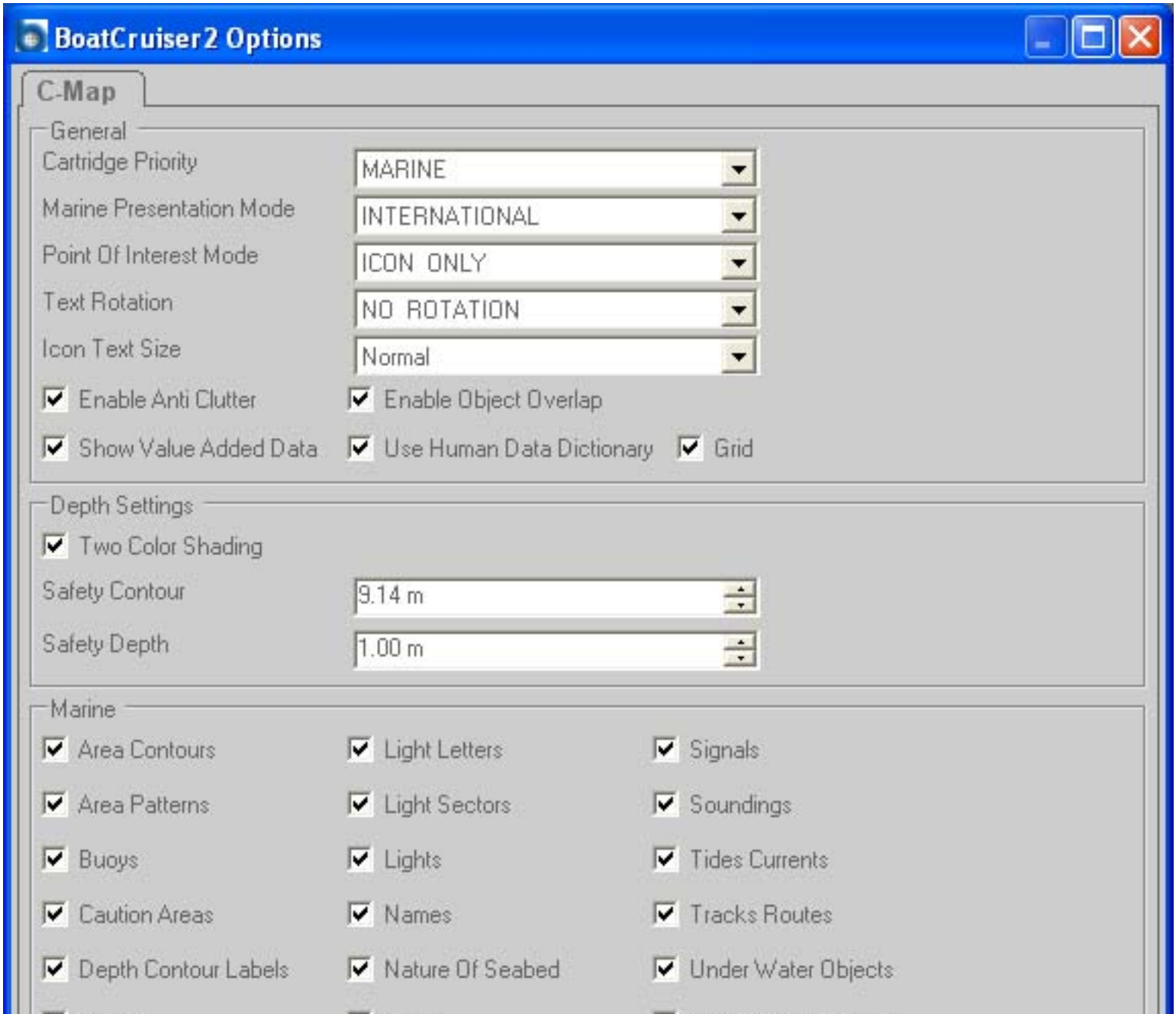
Two Colour Shading - Determines how the C-Map charts are coloured. If enabled, depths will be drawn using two colours (shallow and deep water) with the cut off point being the safety contour value.

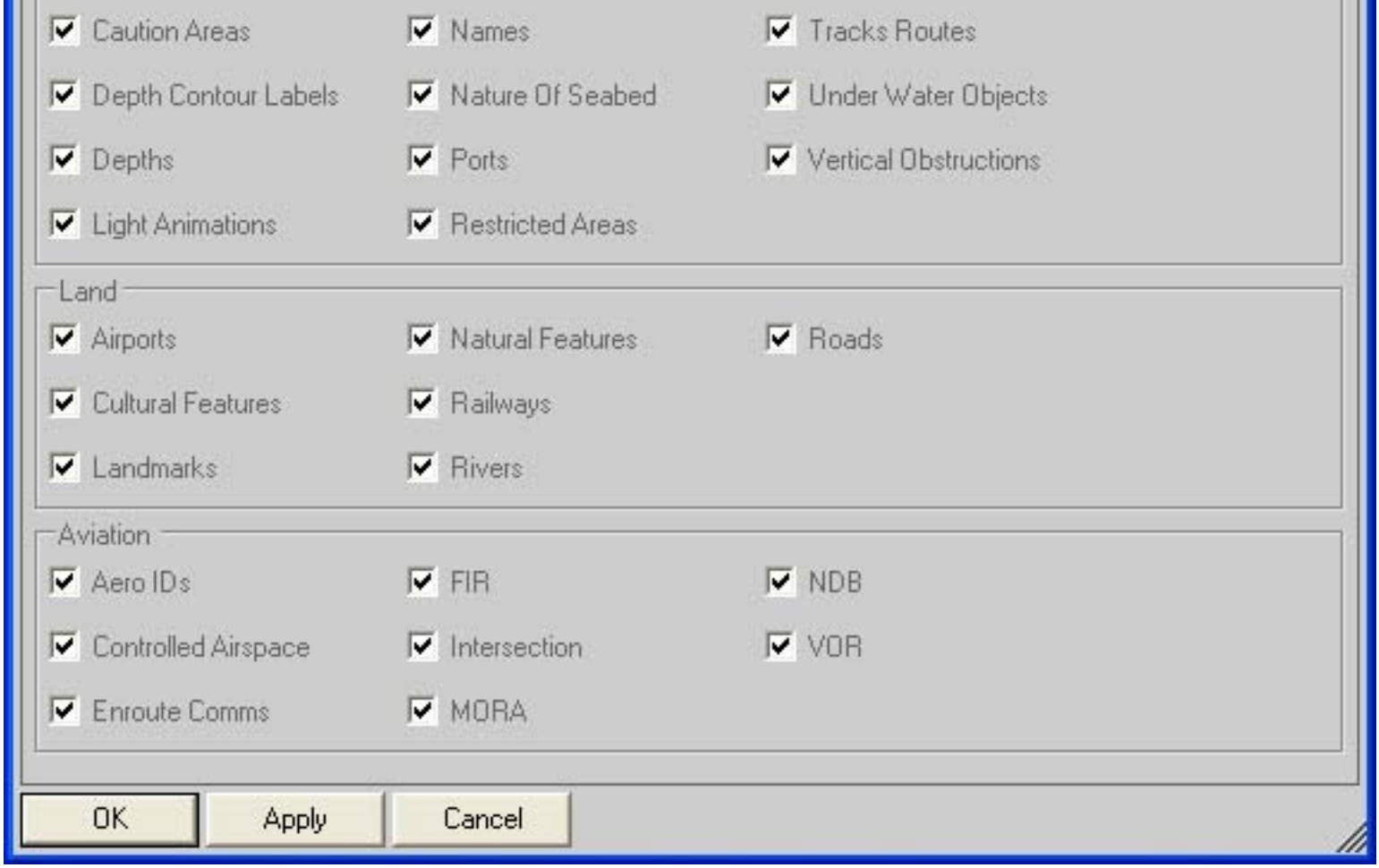
Safety Contour - The contour line used to determine safe an unsafe waters. In two colour shading, depth areas with minimum value less than the safety contour colour will be coloured blue, and depth areas with minimum value greater than the safety contour will be coloured white (day mode).

Safety Depth - Controls the display of sounding values. Only soundings less than or equal to the safety depth will be displayed.

Marine / Land / Aviation

Options in these sections determine whether the specific chart item is drawn or not. These options can be used to reduce clutter on C-Map Charts





C-Map MAX Features (Source: www.c-map.com)

Flashing NavAids can be animated to show their correct flashing light sequence. Only NavAids that are within their nominal range of the vessel are lit. Sectored Lights are shown in the correct colour based on boat/vessel's position. As well, The NavAid's name can be displayed below the NavAid symbol.

Value-Added Date: Embedded within the chart is a multitude of information such as harbours, inlets, marinas, coastal roads, land elevations and points of interest.

Tides and Currents: Colour coded tidal arrows provide real-time current direction and strength

Perspective View "Birds Eye View" provides a forward looking angle.

C-Map MAX Pro (New add-on, not yet available)

C-Map MAX Pro is an add-on module necessary for viewing and manipulating the new C-Map MAX

Pro charts. It can be installed after the user has purchased and installed a NavSim Product, i.e., BoatCruiser, SailCruiser or NavCruiser Pro, including necessary plug-ins.

C-Map MAX Pro Features (Source: www.c-map.com)

The standard features of MAX Pro are extraordinary redraw speed, interactive data content display and raster-like chart presentation with the full power of vector. As with all C-Map electronic chart products, MAX Pro includes all official data and Notices to Mariners (NTMs).

Guardian Technology:
Guardian sets up a cone in front of the boat (based on the speed and look-ahead time to determine the range) and danger objects inside this cone cause an alarm to sound to alert the user of potential danger. Guardian clearly displays potential hazards and sounding proximity alarms as they come into pre-defined ranges.

3D "Virtual Earth" Display:
MAX Pro is the first chart format from C-Map by Jeppesen to provide a powerful and dynamic 3D display mode that provides informative views of the chart data, above and below the water. Both full land elevation data and satellite imagery are integrated within MAX Pro to create a truly stunning "virtual earth" display that graphically illustrates the geographical nature of the coastline.

Quick-Sync Updating:
At the heart of MAX Pro is C-Map by Jeppesen's unique real-time updating technology, which allows navigators to check the status of their electronic charts and supplementary databases. Updates can be quickly downloaded and automatically applied at the convenience of the navigator via Email or the Internet.

Value-Added Data:
MAX Pro incorporates a wealth of value-added data including C-Map's C-Marina port database (with high resolution photos of ports & marinas), a global tidal database, coastal roads and POIs, land elevations, satellite and aerial photos.

Tidal Streams & Heights:
Tidal Streams -- MAX Pro users can overlay tidal flow arrows directly on the chart display. The current direction and strength can be seen for any given date and time. Tidal data may also be animated over a selected date/time range. Tidal Heights -- Provides prediction and display of high and low water for thousands of points around the world, denoted by tidal diamonds on MAX Pro charts. Advanced calculation algorithms generate an easy-to-read tidal prediction graph, also providing low and high water time (24 hours), height, sunrise and sunset.

Satellite Imagery:
2D and 3D superb presentation of satellite imagery displayed directly on the electronic chart.

NavRef Photos:
Photographs & Diagram content is a key feature of MAX Pro and provides the navigator with an invaluable source of visual information about the area they will be navigating in. Included are aerial photos of marinas and an ever-increasing number of sea level photos. Also, diagrams of NavAids and coastal features.

C-Marina Pilot Book Database:
C-Map's exclusive pilot book database maintained and directly updated by over 13,000 ports and marinas worldwide.

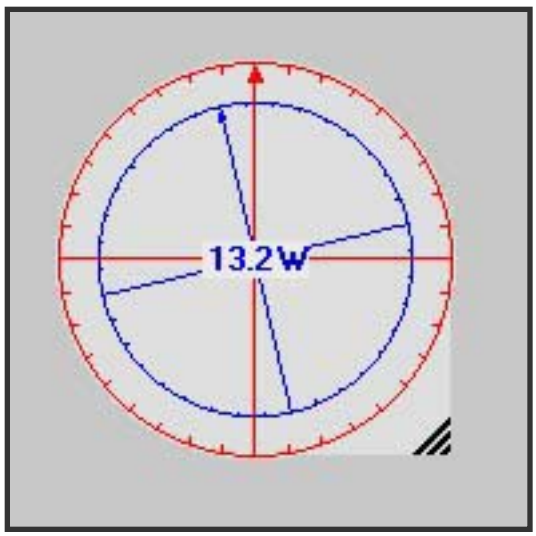
[main page] [site map]

Compass Rose (Magnetic Variation)

- About the Compass Rose
- Moving the Compass Rose
- Changing the Size of the Compass Rose
- Adding or Deleting the Compass Rose
- History of Compass Rose

About the Compass Rose

The Compass Rose has this appearance on the screen:

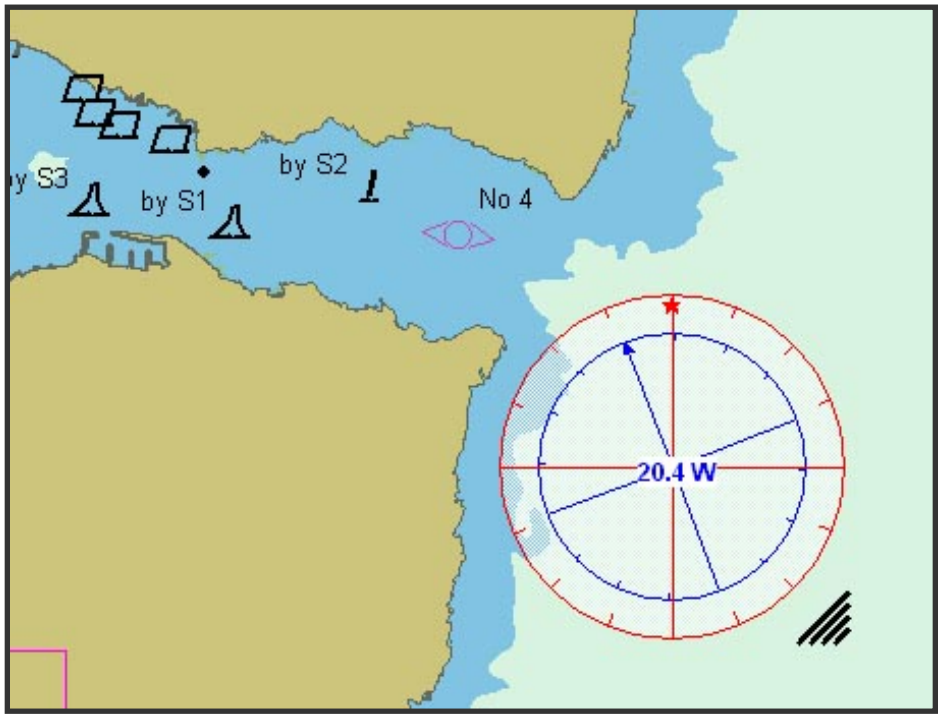


The program utilizes a current, reliable Compass Rose to automatically adjust for declination variances wherever the captain is operating in the electronic chart system. Because the earth's magnetic field is constantly changing, it is impossible to accurately predict what the field will be at any point in the future at any given location. By constantly measuring the magnetic field, the National Geophysical Data Center(NGDC) observes how the field is changing over a period of years. Using this information, it is possible to create a mathematical representation of the earth's main magnetic field and how it is changing. Since the field constantly changes, new observations are continually made and models are generated to accurately represent the magnetic field as it is.

Moving the Compass Rose

Using BoatCruiser. SailCruiser or NavCruiser Pro, the compass rose is positioned by default in the

upper left-hand corner of each chart displayed in the Main Chart View. It can be moved to any position on the Chart by simply clicking on the Compass Rose and dragging it to another position on the Chart.

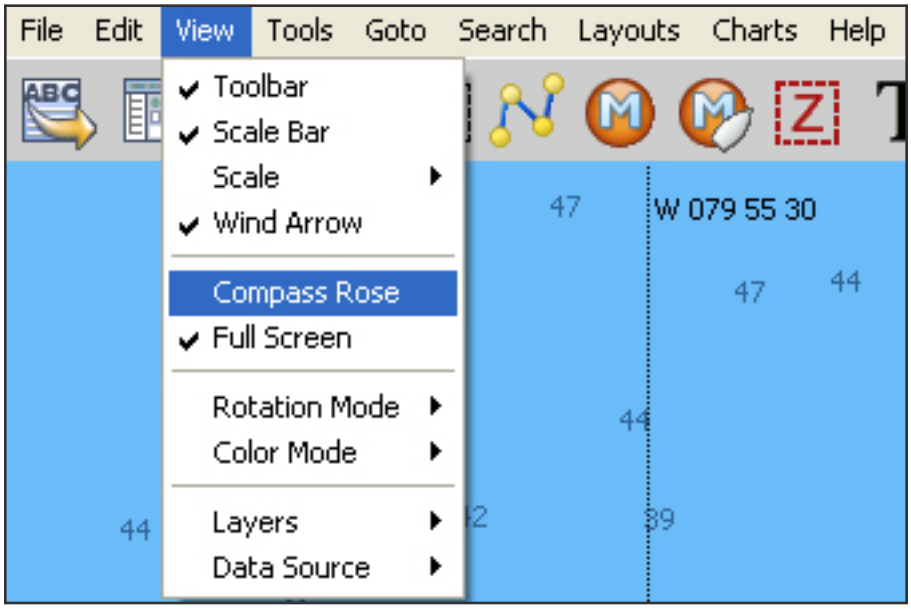


Changing the Size of the Compass Rose

The Compass Rose can be increased or decreased in size by moving the selector arrow near the southeast point of the Rose, clicking on the re-sizing handle that appears, and dragging the handle inward to decrease the size or outward to increase the size of the Compass Rose.

Adding or Deleting the Compass Rose

The Comass Rose is hidden by default and can be added by clicking on View (in the Main Menu) and checking Compass Rose. Similarly the Compass Rose can be removed from view by un-clicking Compass Rose in the same manner.



BoatCruiser, SailCruiser and NavCruiser Pro use a geomagnetic field model developed by the International Association of Geomagnetism and Aeronomy (IAGA). The IAGA has as its most current model, the International Geomagnetic Reference Field - EPOCH 2000 , revised for the years 2000 to 2005.

Some charts already have a compass rose drawn on them showing the magnetic declination angle. This angle may differ from the angle displayed by BoatCruiser's compass rose for the same point on the chart. BoatCruiser's compass rose is designed to be current and accurate, whereas a chart's magnetic declination angle may be based on outdated data. We recommend using the program's Compass Rose instead of a chart's compass rose, but the ultimate decision and responsibility resides with the user to determine which one is more correct.

History of Compass Rose

(This brief history was written by Bill Thoen and appears on GISnet.com.)

"The compass rose has appeared on charts and maps since the 1300's when the portolan charts first made their appearance. The term "rose" comes from the figure's compass points resembling the petals of the well-known flower.

Originally, this device was used to indicate the directions of the winds (and it was then known as a wind rose), but the 32 points of the compass rose come from the directions of the eight major winds, the eight half-winds and the sixteen quarter-winds.

In the Middle Ages, the names of the winds were commonly known throughout the Mediterranean countries as tramontana (N), greco (NE), levante (E), siroco (SE), ostro (S), libeccio (SW), ponente (W) and maestro (NW). On portolan charts you can see the initials of these winds labeled around the edge as T, G, L, S, O, L, P, and M.

The 32 points are therefore simple bisections of the directions of the four winds (but the Chinese divided the compass into 12 major directions based on the signs of the Zodiac). For western apprentice seamen, one of the first things they had to know were the names of the points. Naming them all off perfectly was known as "boxing the compass".

There is no absolute standard for drafting a compass rose, and each school of cartographers seems to have developed their own. In the earliest charts, north is indicated by a spearhead above the letter T (for tramontana). This symbol evolved into a fleur-de-lys around the time of Columbus, and was first seen on Portuguese maps. Also in the 14th century, the L (for levante) on the east side of the rose was replaced with a cross, indicating the direction to Paradise (long thought to be in the east), or at least to where Christ was born (in the Levant).

The colors on the figure are supposedly the result of the need for graphic clarity rather than a mere cartographical whim. On a rolling ship at night by the light of a flickering lamp, these figures had to be clearly visible. Therefore the eight principle points of the compass are usually shown on the compass rose in black which stands out easily. Against this background, the points representing the half-winds are typically colored in blue or green and since the quarter-wind points are the smallest, they are usually colored red. "

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Connection to Devices

The Device Wizard can be used to automatically detect and connect to devices attached to your computer. Alternatively, devices can be configured manually using the appropriate option from "Tools->Devices".

See also Supported Devices.

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Device Wizard

Click on the Quickstart icon from the Main Toolbar which displays the Wizard options.

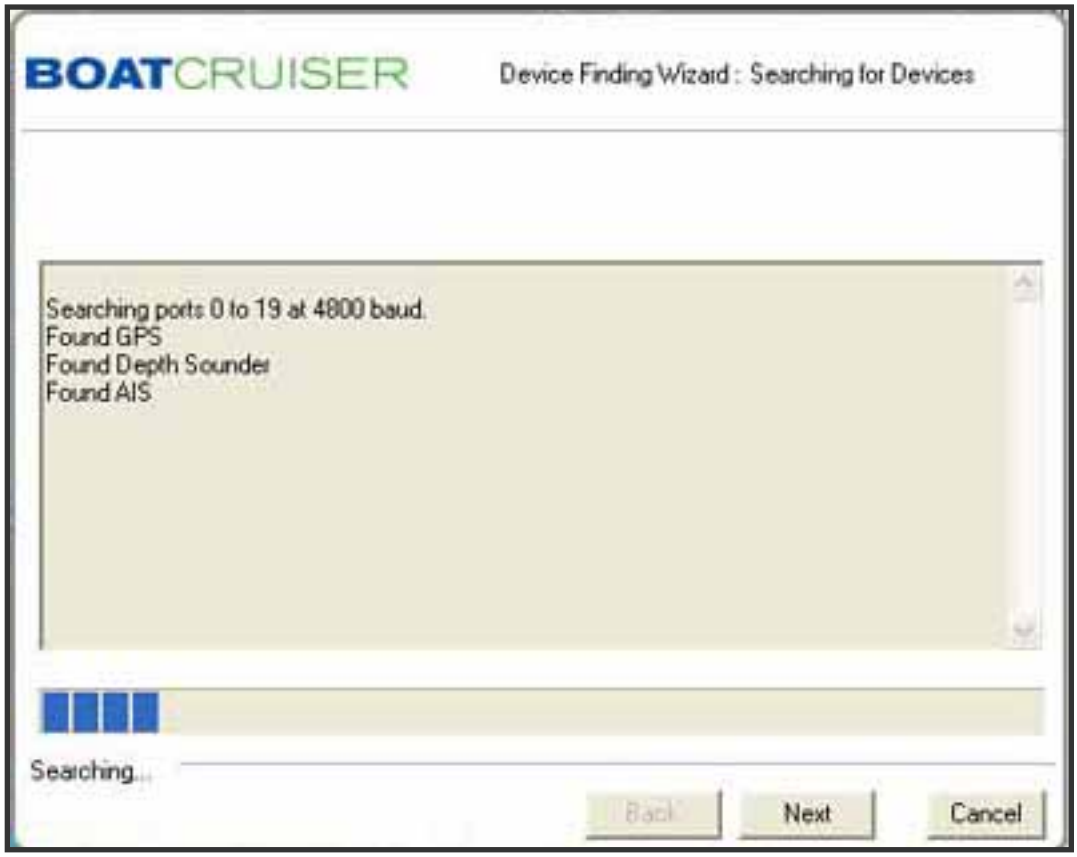
Welcome to
BOATCRUISER
QuickStart Menu
• Wizards perform tasks for you (ex: Importing charts from your computer)
• Tutorials show you how various features work (ex: AIS)
You can access the Quick Start Menu anytime by clicking on in top menu bar
Chart Import Wizard
Import charts from your computer
Device Finding Wizard
Find and connect to devices attached to your computer
Object Import Wizard
Import objects from your computer
Close

Choose Device Finding Wizard from the Wizards tab to launch the device set-up Wizard. Follow the instructions step-by-step to set up the devices for use with BoatCruiser / SailCruiser / NavCruiser Pro.

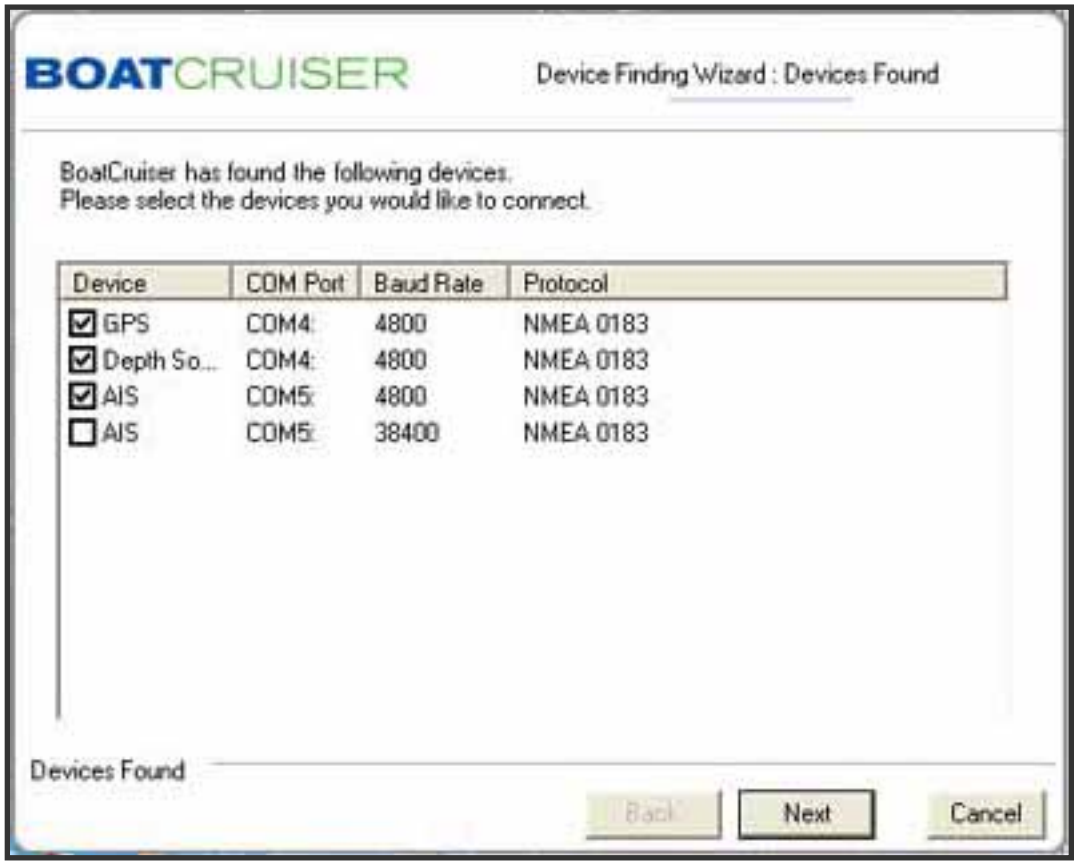
Step 1 / 4

BOATCRUISER
Device Finding Wizard : Introduction
This Wizard will help you find and configure your external devices such as GPS, AIS, depth sounder and autopilot.
Please ensure that any devices you would like to use with BoatCruiser are connected to your computer and turned on before clicking Next.
Introduction
Back
Next
Cancel

Step 2 / 4



Step 3 / 4



Step 4 / 4

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Supported Devices

In generall, only devices compliant with NMEA 0183 protocol are supported. There is also support form some Garmin and Magellan GPS units using their proprietary protocols.

The following devices are supported: GPS, AIS, ARPA, Depth Sounder, Gyro, Anemometer and Autopilot.

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Depth Sounder

- About Depth Sounders
- Depth Sounder set-up
- Depth Sounder Display

About Depth Sounders

A depth sounder sends a signal through the bottom of the boat that bounces off the bottom and comes back to the transmitter. This will tell how deep the water is at that point under the keel. The transducer is the unit located on the bottom of the boat that sends and receives the pulse from the sounder. The transducer can be installed directly on the bottom, about 2/3rds of the way aft, or attached to the transom.
The program supports any NMEA compliant Depth Sounder that generates the $SDDPT NMEA sentence.

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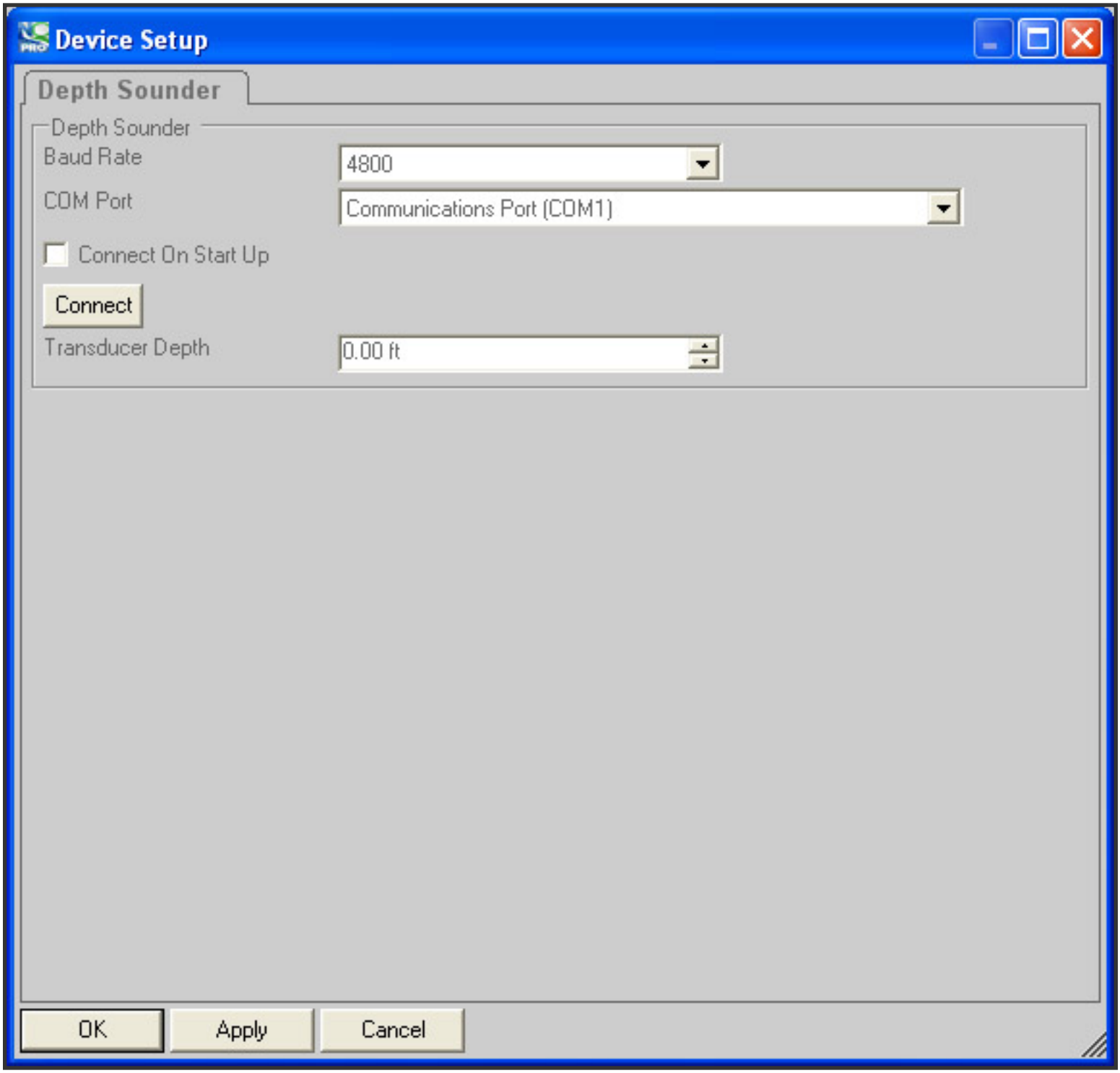
Depth Sounder Setup

The Depth Sounder can easily be configured for use with BoatCruiser / SailCruiser / NavCruiser Pro by setting up the device using the methods described in the help section on Devices.

Once configured, the transducer offset can be set using by selecting the Devices option from the Tools menu as shown below:



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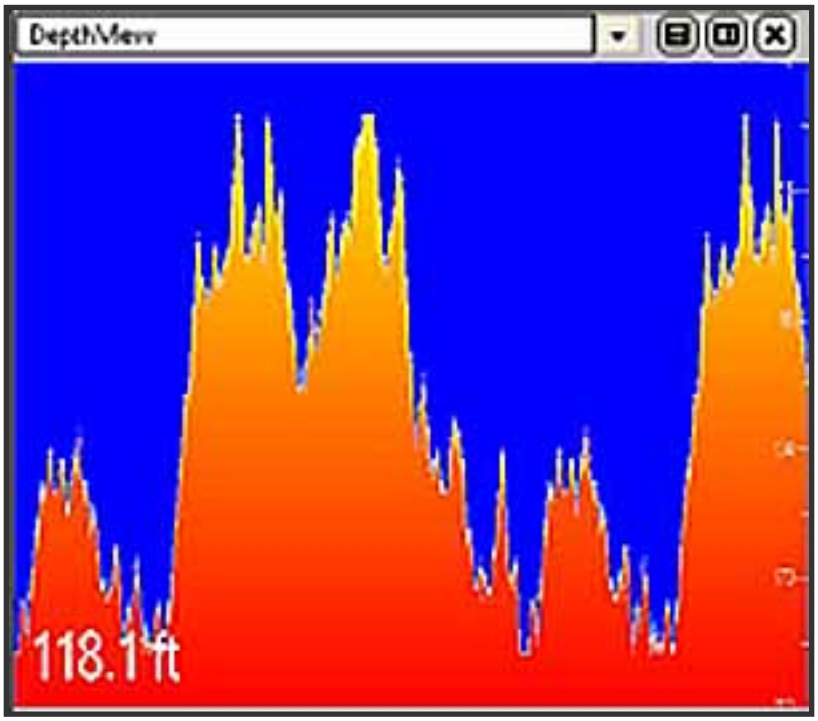
Depth Sounder Display

When the Depth Sounder is configured correctly, the program will display the depth information in the DepthView cell as shown below:



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Working with Gyro

- About Working with Gyro
- Physically Connecting to the Gyro Receiver
- Configuring Gyro Communications

About Working With Gyro

NavSim software can be linked with a Gyro device in order to display the vessel's True Heading and Rate of Turn. Once connected and configured, the Gyro can greatly enhance the utility and level of data provided by our software.

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Physically Connecting to the Gyro Receiver

This program supports Gyro receivers capable of outputting NMEA-0183 compliant string. Please check the user manual for the Gyro receiver if unsure of its capabilities.

The communication link from the Gyro receiver to the computer is established as follows:

Serial communication over an RS-232 cable with a DB-9 connector.

Typically a communications cable will come with the GPS receiver that has a DB-9 Female connector (as shown) on one end to connect to the PC's serial port (also called a COM port), and another connector on the other end of the cable to connect to the Gyro receiver.

If the Gyro receiver has a connector for hooking into such a cable, but the cable

	is missing, a replacement may be available from the manufacturer of the receiver or a local marine outfitting store. **Note:** A serial to USB converter can also serve as an option if the laptop does not have a serial port.

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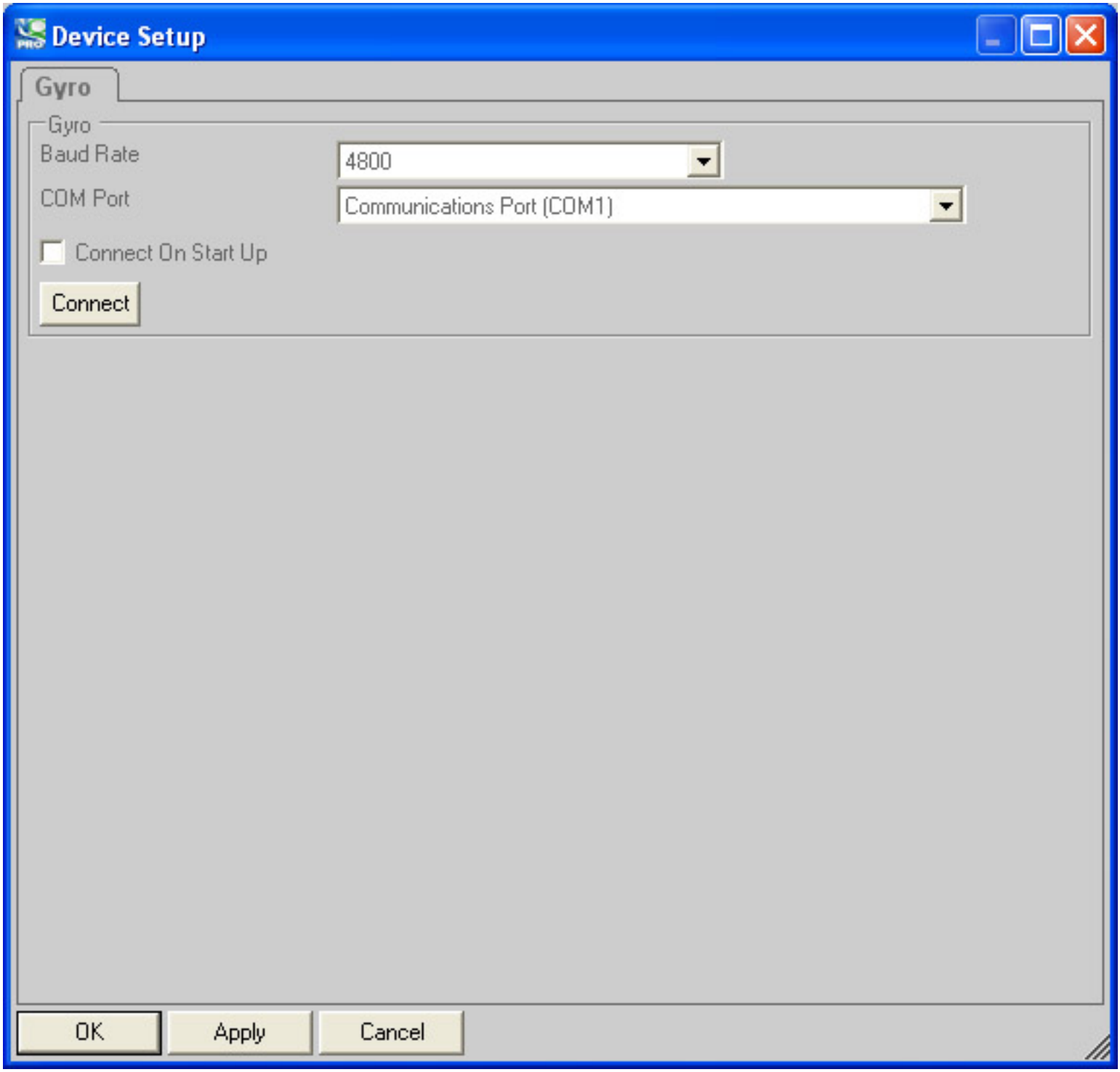
Configuring Gyro Communications

Once the hardware is connected to the computer, the software can be configured to display the information using the Device Finder Wizard or through the Gyro dialog in "Tools->Devices->Gyro". If a Gyro device is configured through the Device Tools dialog, be sure to set the correct Baud Rate for the receiver. This baud rate can usually be found in the receiver documentation and can even be configured on some units. If a connection is not immediately established , different COM ports and baud rates may have to be tested in order to find the correct combination.



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Toolbar Customization

To customize the toolbar, click "Tools->Customize Toolbar" from the main menu.

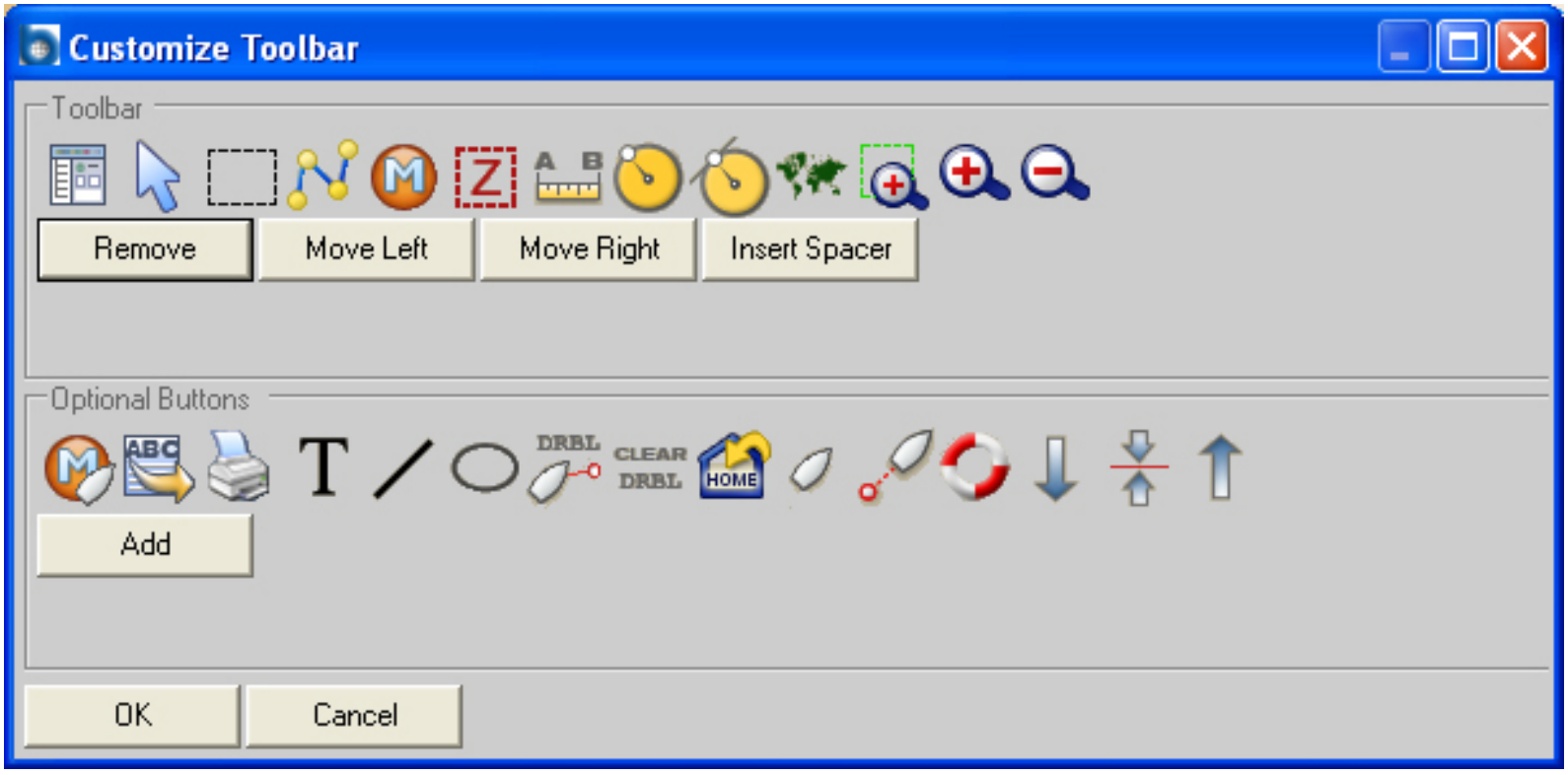
To move a button, click on the button to move then click either "Move Left" or "Move Right".

To remove a button, click the button to be removed then click remove. This will remove the button from the toolbar and add it to the list of optional buttons.

To add a button to the toolbar, click on the optional button and then click add. This will add the button to the toolbar and remove it from the list of available buttons.

To space the buttons further apart (useful when using a touch screen) click Insert Spacer to put an empty space between buttons. Unlimited spacers can be added, and they are treated just like other buttons (remove and move).

When finished customizing the toolbar, click OK to apply the changes. If the changes are not to be applied, click cancel.



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Dead Reckoning

In navigation, dead reckoning is the process of deducing and recording a current fix using the last known position, course and speed. What we call dead reckoning is not really dead reckoning in the strick definition of the term. Instead, our dead reckoning feature is more like a simple straight line GPS simulator.The dead reckoning feature allows the vessel to update its position using a specified course and speed. Also, dead reackoning can be set to take over when the positioning device fails.

The dead reckoning feature can also be used as a training tool on land before using our software on the water. If you activate a route while "dead reckoning" all the navigation info updates just like it would if connected to a GPS. In "dead reckoning" the vessel will follow the active route, and stop when it reaches the end of the route. As the vessel passes waypoints, it changes speed to than on the next leg of the route.

To enable dead reckoning and set the course and speed, use the dead reckoning options.

Note: Be careful when enabling dead reckoning. If you use our software for navigation and your GPS fails, dead reckoning will take over and the vessel will continue on using the last known course and speed. The vessel's movement is not the actual position (since you're dead reckoning) and may lead to you to believe you're somewhere when you actually are not. In such a case, the results of your actions of steering you vessel will not be reflected in our software!

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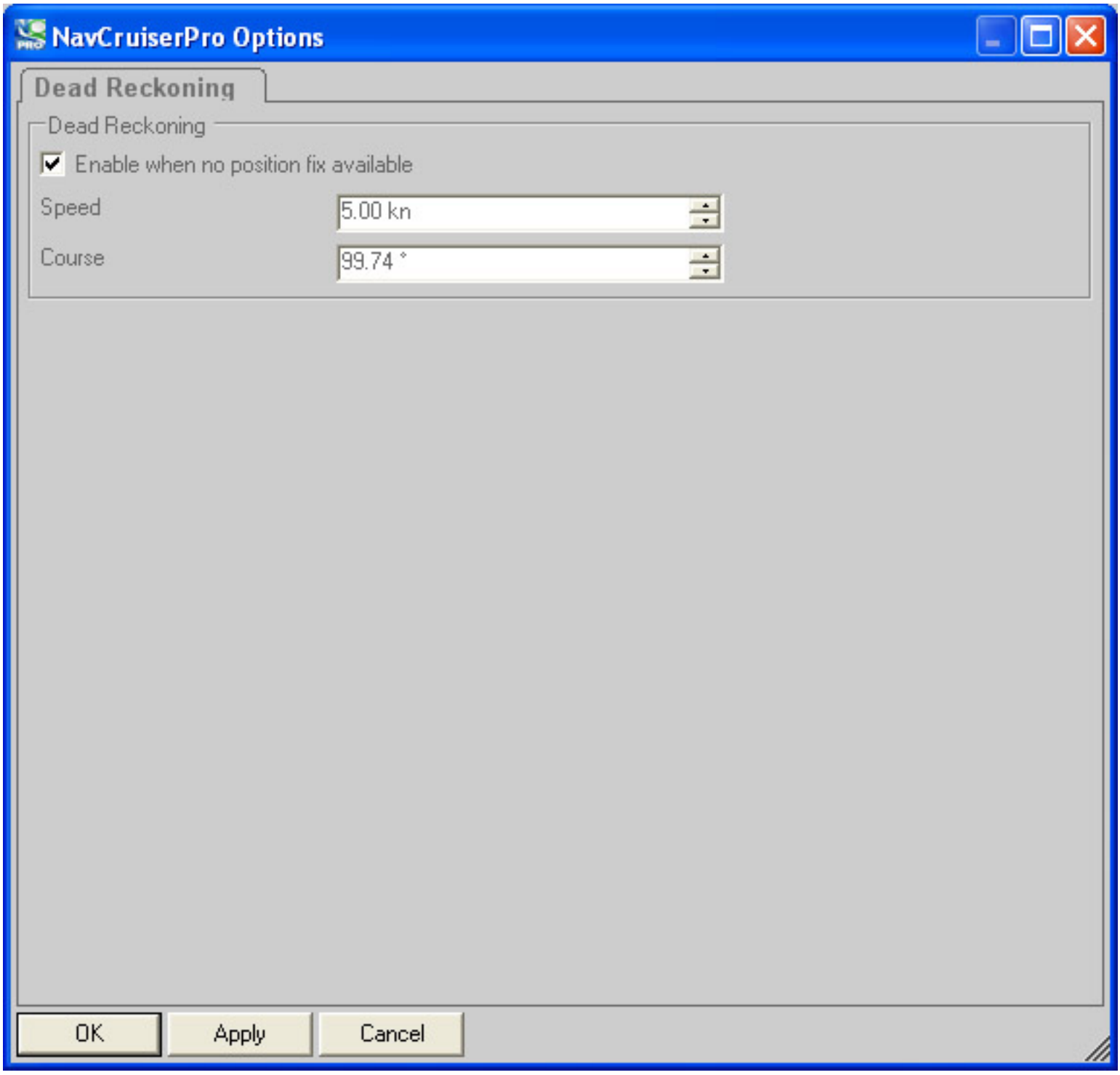
Dead Reckoning Options

Enable when no positioning fix available - turns on/off dead reckoning when no position fix is available

Speed - sets the current dead reckoning speed

Course - sets the current dead reckoning course



Distance Tools

- About Distance Tools
- Range Circle
- Distance Line
- Parallel Index Line

About Distance Tools

The distance tools located in the Main Toolbar, can be used to measure distances and to determine correct heading and position. To measure a distance, simply left-click on any Distance Tool, then left-click on the desired starting point and drag the cursor to the desired end point.

As the mouse moves, a distance and angle measurement will be displayed for the starting point and the current mouse cursor position.

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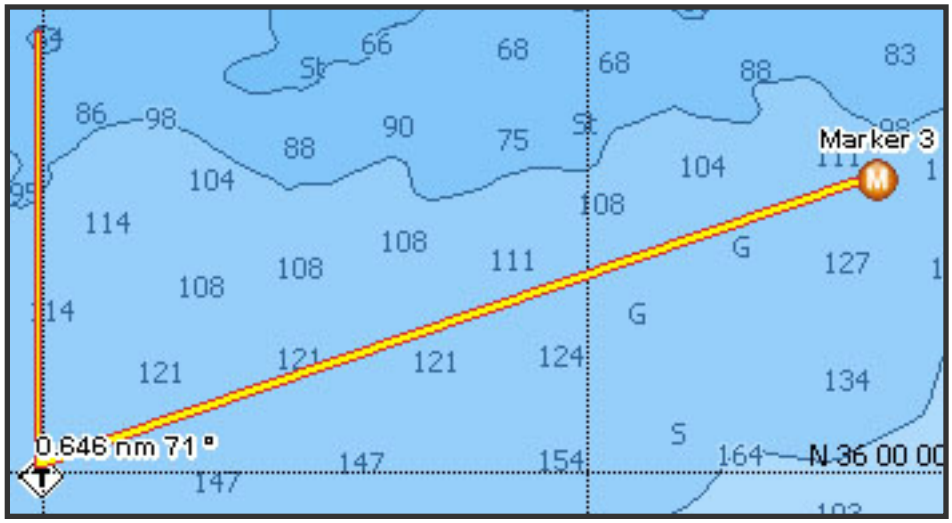
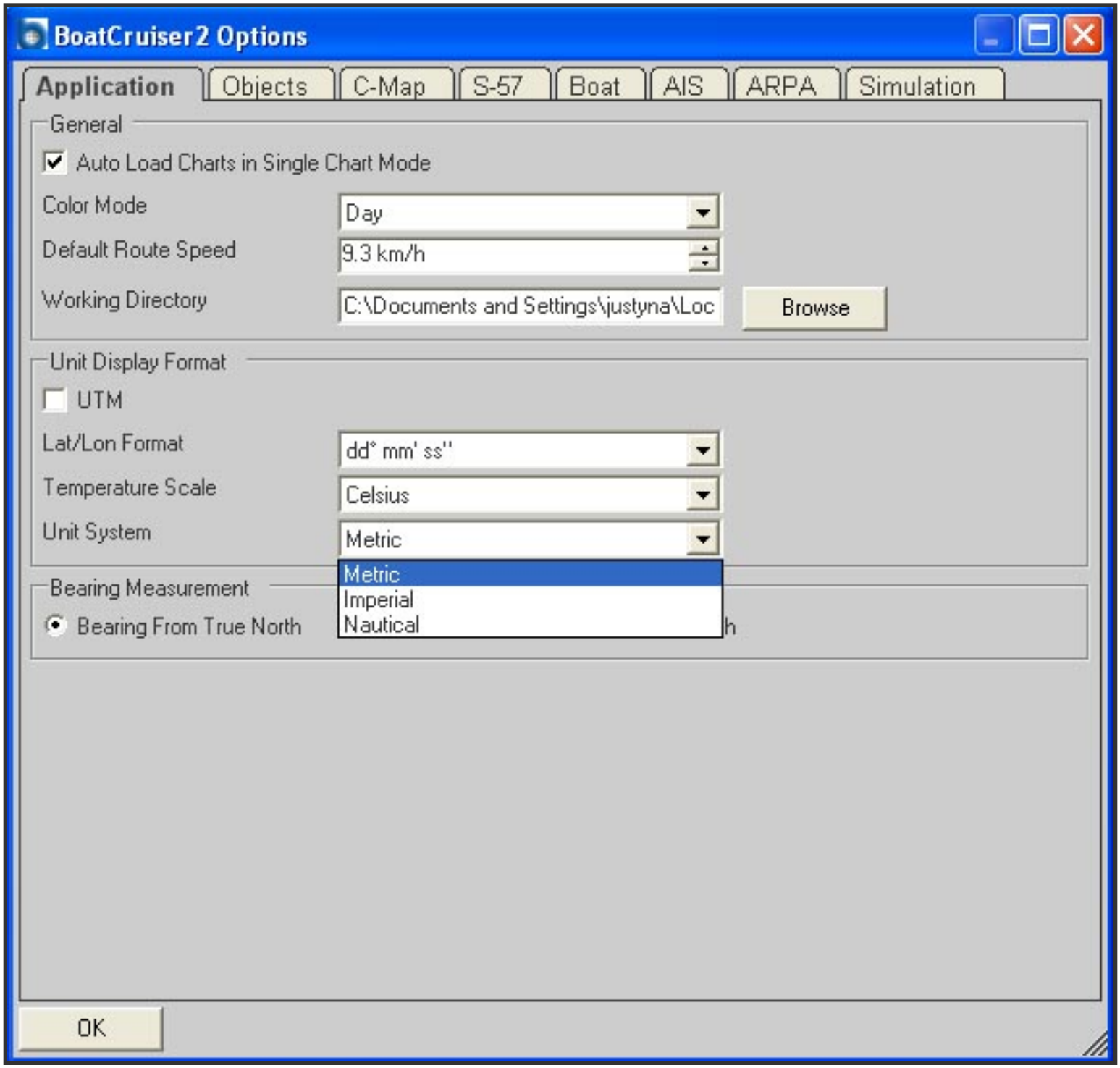
Distance Line



The Distance Line

serves to measure distances between any two points. The distance will automatically appear in Nautical Miles. In order to modify the unit of measure, select Tools, then Options from the Main Menu. Once the Options box appears, select the Unit System you wish to use from the Application tab.



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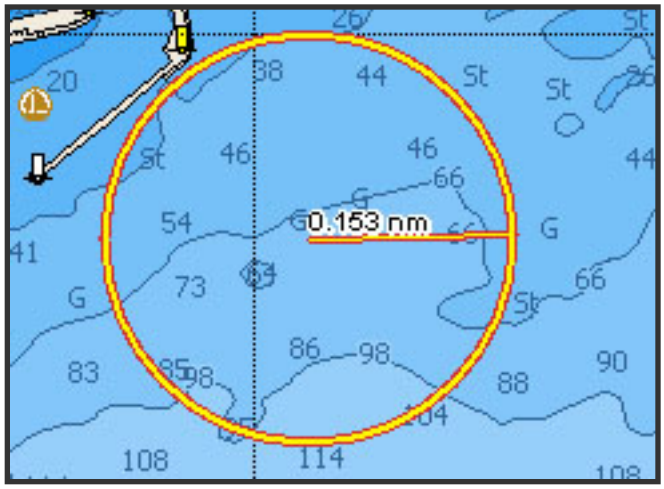
Range Circle



The Range Circle serves to measure distances within a pre-set range of an object.

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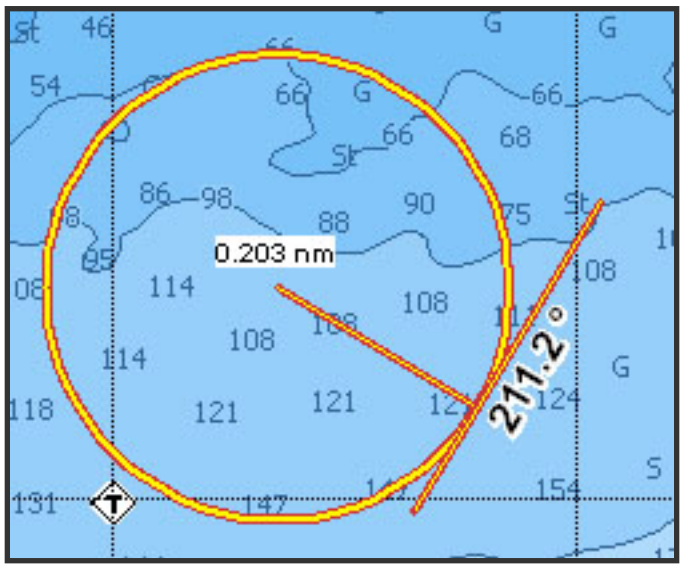
Parallel Index Line



The Parallel Index Line serves to monitor and maintain the vessel on track.

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Dual Positioning

Pilots using the AIS as a positioning device (via the Pilot Plug) may also connect a GPS as a backup positioning device. If both the AIS and GPS are connected at the same time and both are sending valid position fixes, then NavCruiser PRO will display two ships, one at each position fix. The primary positioning device is used to determine navigation information such as SOG, COG, ETA, TTG, etc. The primary positioning device can be changed in the menu under "Tools->Primary Positioning Device". In the event that the primary positioning device stops sending position fixes, the secondary positioning device takes over.

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Dynamic Range Bearing Line (DRBL)

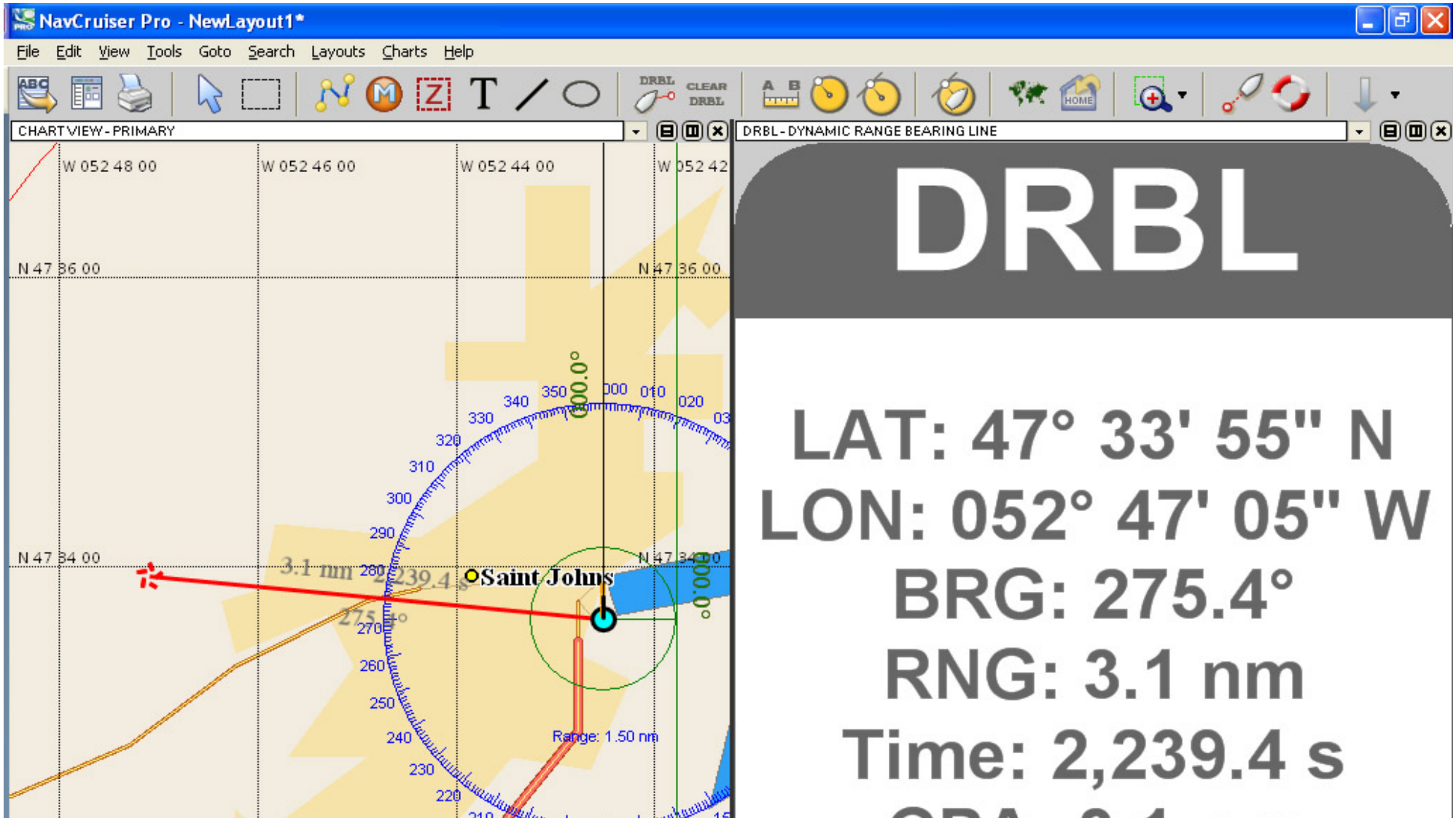
A Dynamic Range Bearing line is a line drawn from the conning position of the vessel to a point on the chart. A DRBL shows range, time and bearing to the selected point. Information about the selected DRBL is also displayed in the "DRBL" cell if the Layout contains a "DRBL" cell.

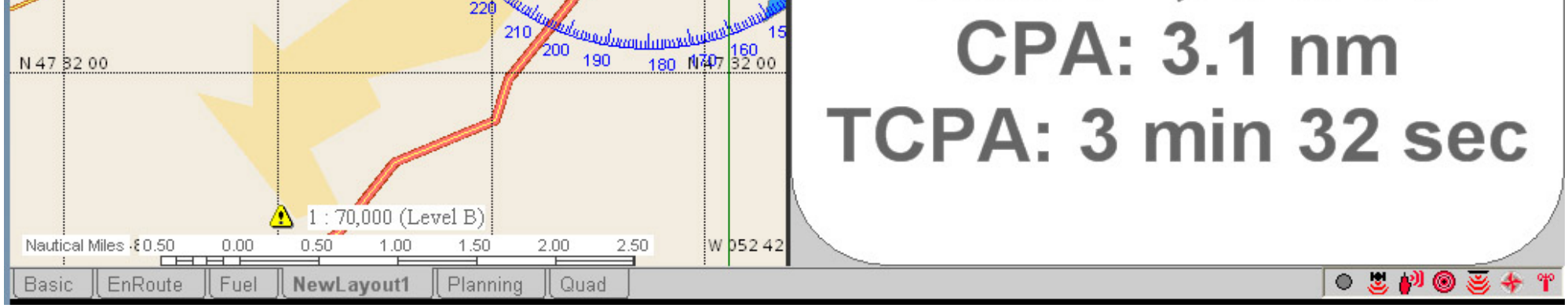
To selected a DRBL just left-click on the DRBL.

Clear Dynamic Range Bearing Line

To delete a DRBL, select it and hit the "Clear DRBL" button

in the Main Toolbar.





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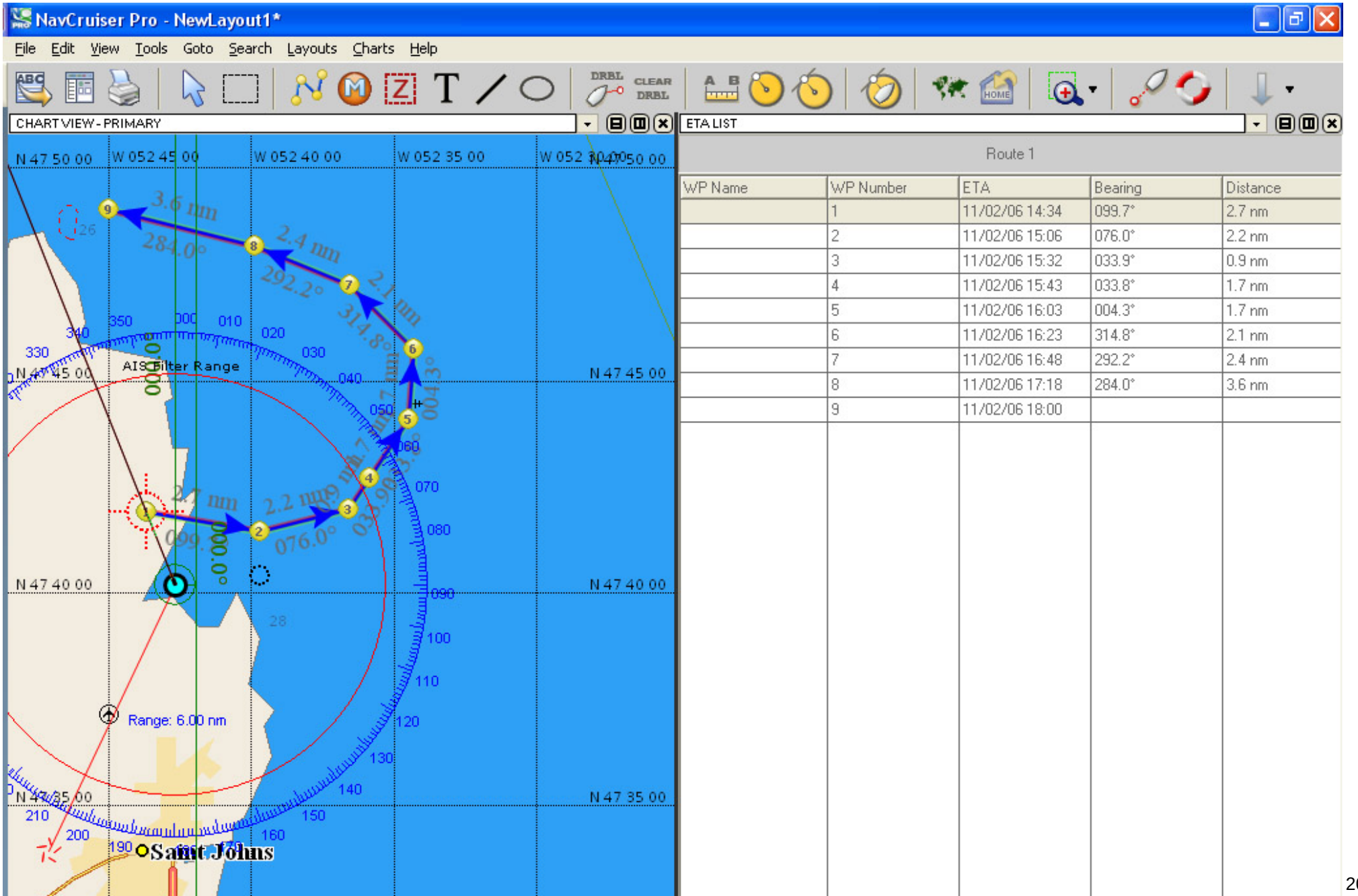
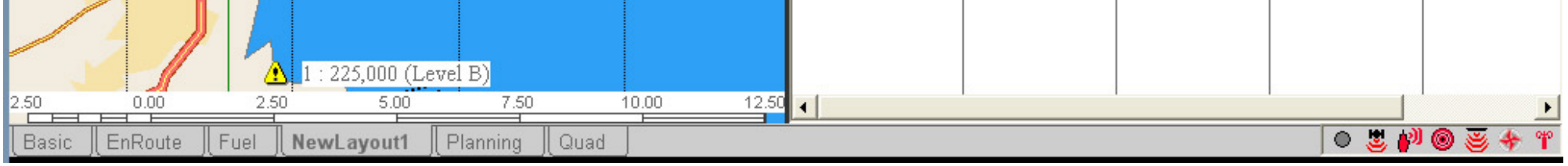
ETA List

The ETA list shows the ETA's for the waypoints of the active route, along with distance, bearing and the arrival time. The columns of the ETA list can be reordered and resized, and this order is saved when the program is closed. The ETA list is updated when a new position fix is received.

To use the ETA list, you must first create a layout that contains an ETA List. Then you must activate a route by right clicking on a waypoint and selecting "Activate Route From This Waypoint".


NavCruiser Pro - NewLayout1*
File Edit View Tools Goto Search Layouts Charts Help
CHART VIEW - PRIMARY
ETA LIST
Route 1
WP Name | WP Number | ETA | Bearing | Distance
1 | 11/02/06 14:34 | 099.7° | 2.7 nm
2 | 11/02/06 15:06 | 076.0° | 2.2 nm
3 | 11/02/06 15:32 | 033.9° | 0.9 nm
4 | 11/02/06 15:43 | 033.8° | 1.7 nm
5 | 11/02/06 16:03 | 004.3° | 1.7 nm
6 | 11/02/06 16:23 | 314.8° | 2.1 nm
7 | 11/02/06 16:48 | 292.2° | 2.4 nm
8 | 11/02/06 17:18 | 284.0° | 3.6 nm
9 | 11/02/06 18:00 |
AIS Filter Range
Range: 6.00 nm
Saint Johns



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Fuel Calculator

- About Fuel Calculator
- Fuel Calculator Setup
- Display Route Fuel Use Information

About Fuel Calculator

BoatCruiser / SailCruiser / NavCruiser Pro have many tools to aid the planning phase of a trip. Among the more advanced planning features offered is the Fuel Calculator. When properly configured, the program can give you an estimate of the fuel required to complete a given route. These estimates are made from sample data entered by the captain and shoud be considered as quidelines only.

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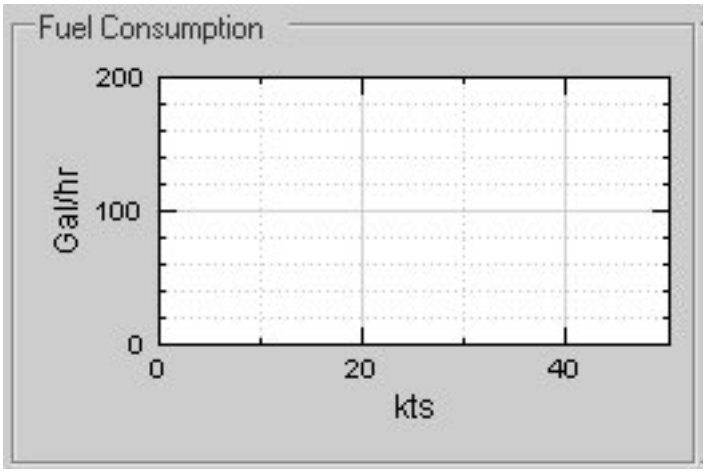
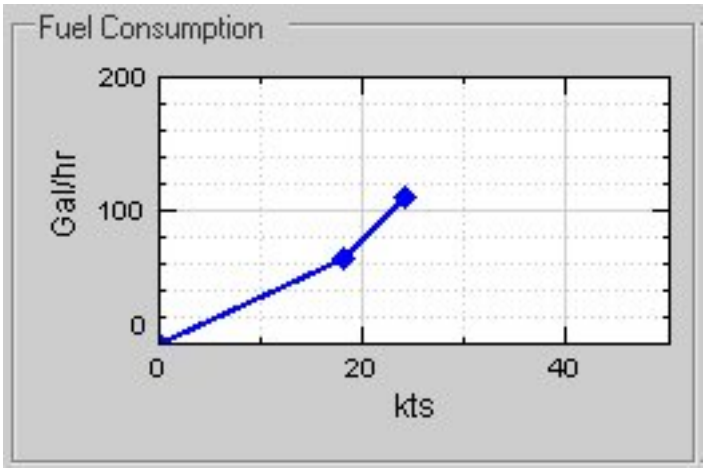
Fuel Calculator Setup

In order to configure the program to display fuel information on a planned route, fuel consumption information is required for a given vessel. This information is likely available for popular classes of motors and is best gained from personal experience and a captain's knowledge of the vessel. Once the information is compiled, it can be entered into the program's Fuel Calculator and used to plan excursions.



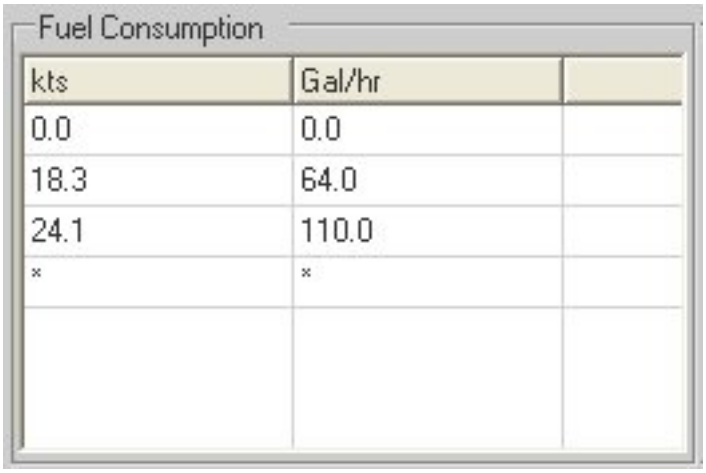
To enter the information into BoatCruiser / SailCruiser / NavCruiser Pro, locate the My Boat icon on the Chart View . Right click on the boat to and click "Boat Properties" from the Context Menu. The Boat Properties dialog will appear, displaying a host of information about the boat. Scrolling to the bottom of this page will display the Fuel Calculator. The calculator is initially displayed as a blank chart containing no data. The default units for the graph are knots for the x-axis and Gallons per hour for the y-axis. Right-clicking on these scales allows for the changing of these units.



In order to enter information into this chart, mouse over the white area of the chart. A tooltip

will appear to show the current position (knots, Gallons per hour) of the cursor in the units displayed on the x- and y- axes. Bring the mouse to a known point of fuel consumption, right-click, and click "Insert". This enters a point at the desired location. As more points are entered, BoatCruiser interpolates between the points to get a more accurate picture of fuel consumption for the vessel. Similar to inserting points, data can be deleted using the "Delete" entry in the context menu.

As an alternative to method of graphical entry, a spreadsheet-like view of the data can be used. To access this view, right-click on the graphical fuel display and select Switch View. This displays the data in a tabular format. To enter another set of values, click on an * in the table and type the value into the cell. Existing values can also be modified in this fashion.



The Fuel Consumption context menu also provides for the copying and printing of the fuel data. These options allow the captain to export fuel consumption information for use in other programs.

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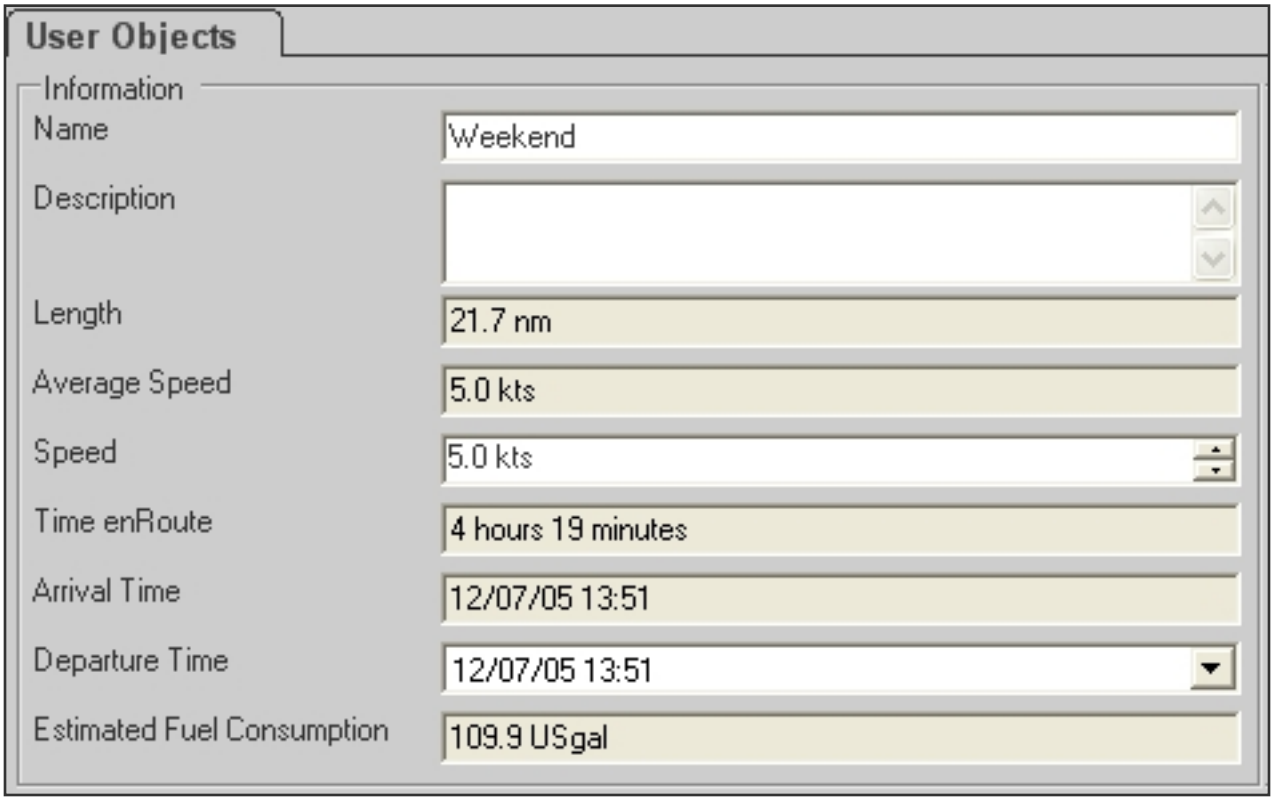
Displaying Route Fuel Use Information

Once Fuel Consumption information has been entered for a vessel, the fuel usage information for all routes is displayed in the routes properties. Double clicking on a route or right-clicking on a route and selecting "Properties" from the Route Context Menu will display information for the selected route. This data is also available for a selected route through the "User Objects" tab of the Properties layout control. The image below shows the available information for a sample route. The fuel consumption is listed here along with various other details.



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My Boat

- About My Boat
- Finding Nearest Tidal Station to My Boat
- Moving My Boat
- My Boat Properties
- Finding Nearest Objects to My Boat
- Man Overboard

About My Boat

BoatCruiser displays a boat icon showing the boat location at any given time. A color convention is used when displaying the boat depending on the state of the program.

When the GPS is inactive (default state), My Boat icon is shown in cyan. In this state, the boat can be dragged around the Main Chart View.

When the GPS is activated, My Boat icon is shown in magenta. It automatically appears in the vessel's exact location on the chart and follows its course.

While reviewing Trajectories or while playing-back a simulated trajectory, My Boat icon is shown in dark blue.

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Moving My Boat

When the GPS is not activated, My Boat can be brought to any desired location by right-clicking on the chart and choosing Move Boat Here from the Chart Context Menu.

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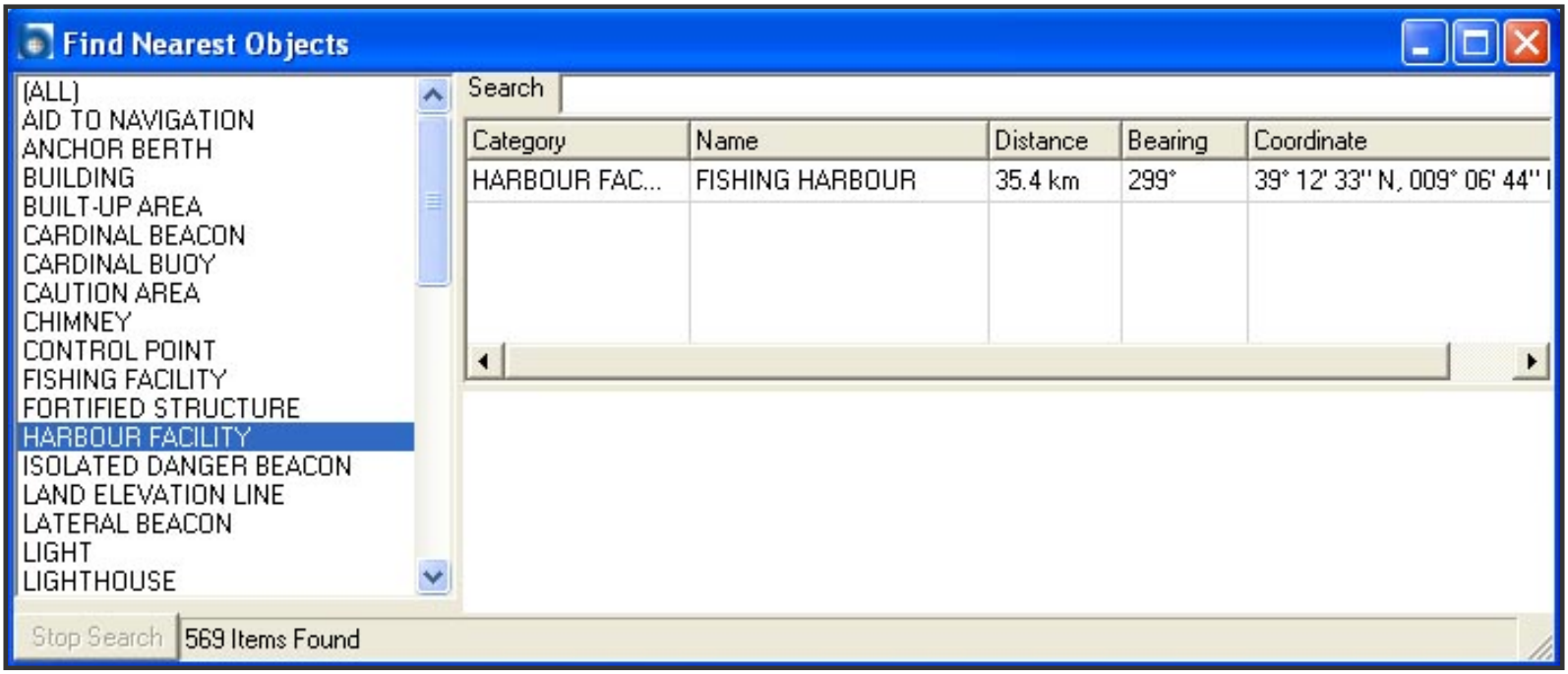
Finding Nearest Object to My Boat

This function serves to find any point of interest (ex: airport, museum, church) within a specific distance of the user's current location. Simply right-click My Boat and select Find Nearest Object from the My Boat Context Menu.



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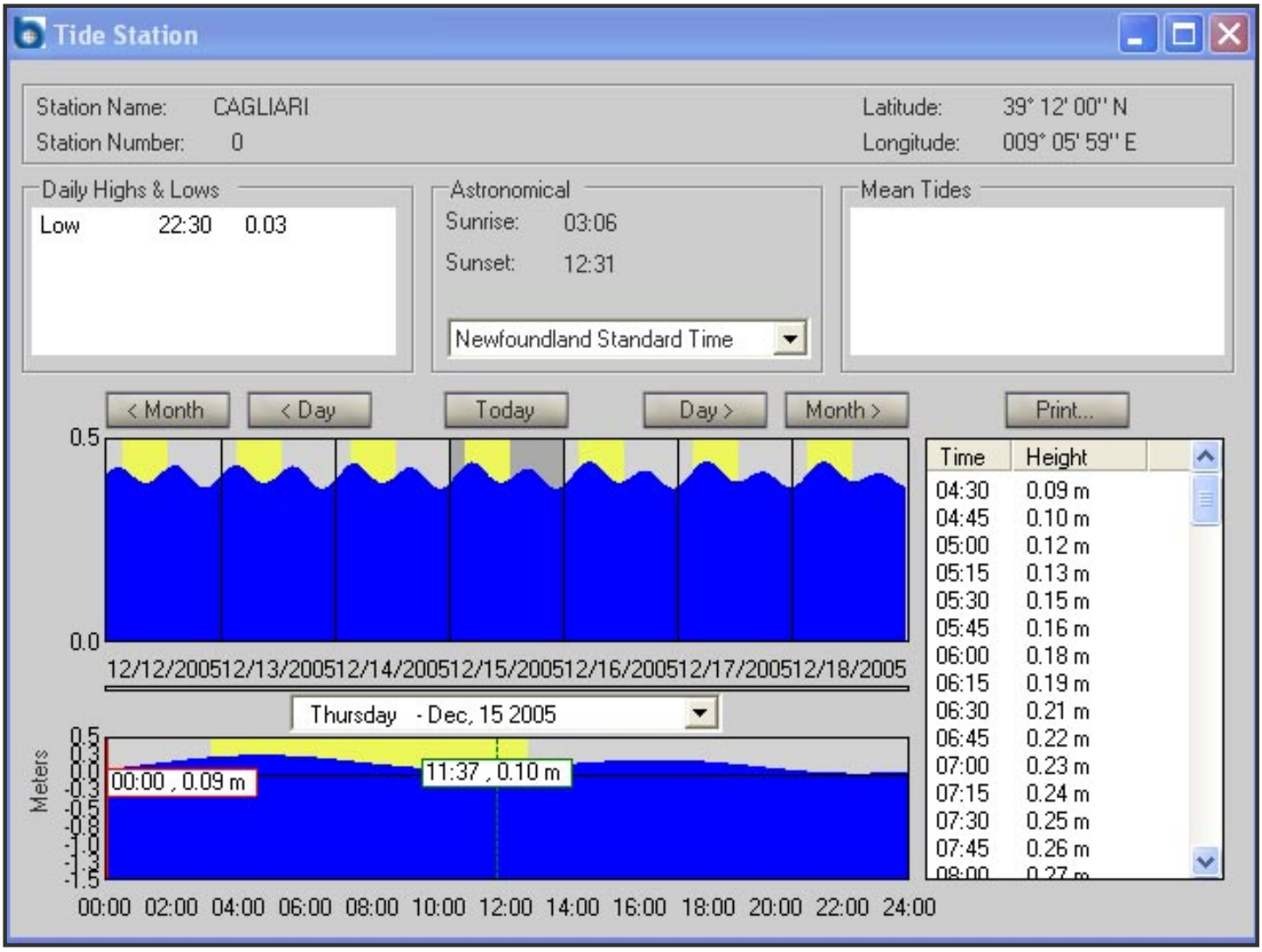
Finding Nearest Tidal Station to My Boat

This function serves to quickly find the nearest Tidal Station to the user's current location. Simply right-click My Boat and select Find Nearest Tidal Station from the My Boat Context Menu.



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My Boat Properties

My Boat Properties provides additional information about the Boat and allows for the modification of its characteristics. In order to access My Boat Properties, simply right-click My Boat and Select Boat Properties from the My Boat Context Menu.

Changes to the shape of the Boat, its length, draft, width and GPS Offset can also be made through My Boat Properties.

For added safety in traffic intensive areas it is possible to pre-set the distances of My Boat's Alarm Radius as well as its Proximity Radius

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Man Overboard

In case of emergency, this function serves to instantly mark the spot where the emergency occurred. Simply right-click My Boat and choose Man Overboard from the My Boat Context Menu. The Life Saver will automatically appear and lock into place. As the vessel moves away from the Life Saver the distance to it will continue to be displayed.

The Man Overboard function can also be accessed by clicking in the Main Tool Bar.

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Locations

- About Locations
- Importing Locations
- Using Locations

About Locations

The program allows for the import and display of several types of locations including Geolocations (specific lat/long points), Maptech Objects (Routes, Markers, etc.), Marina Locations, Photo Locations, Tidal Stations, Fishing Locations, etc.

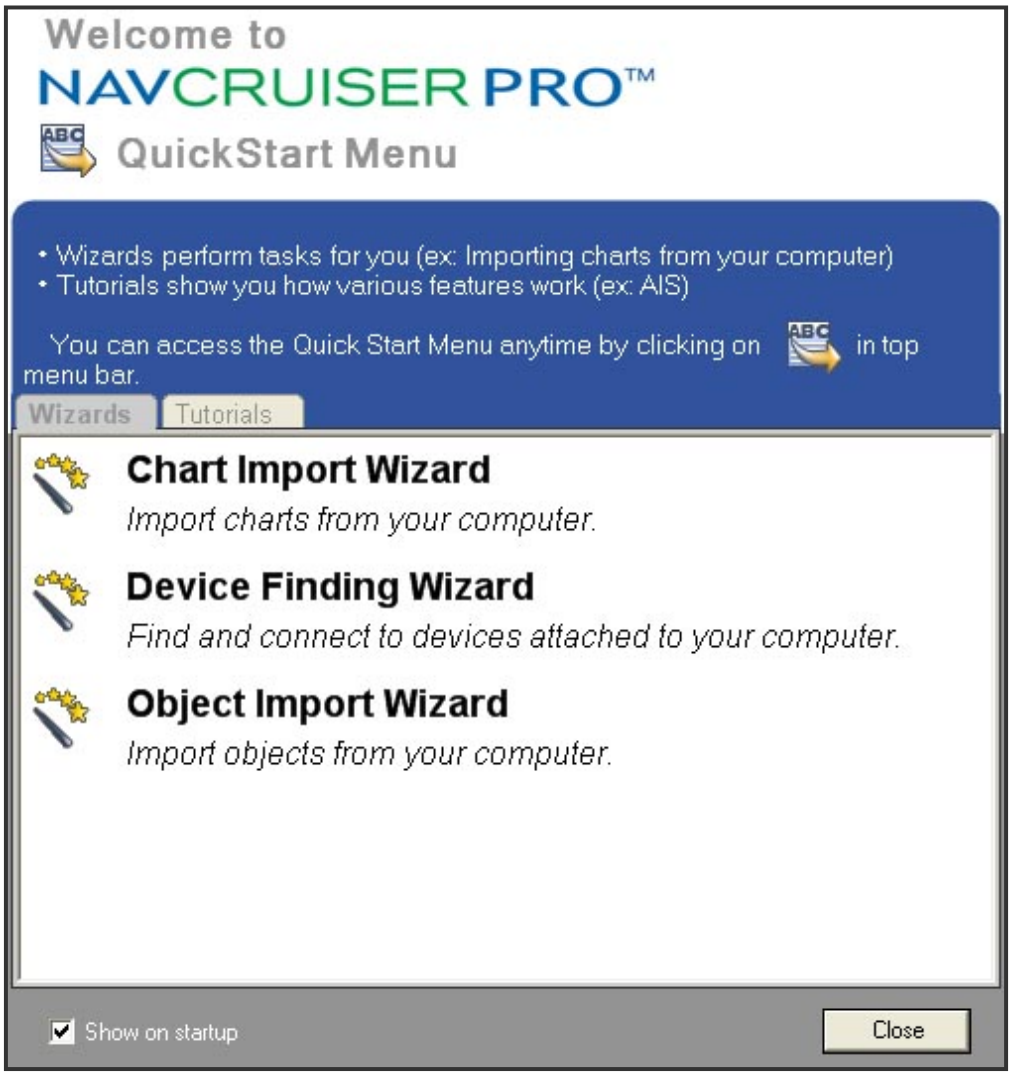
Read the help section on Importing Locations on how to import such locations and the Using Locations section on how to view the location information.

Importing Locations

In order to use Location information, Location data first needs to be imported into the program. The program has an easy-to-use feature to import all or any combination of the supported Location types.

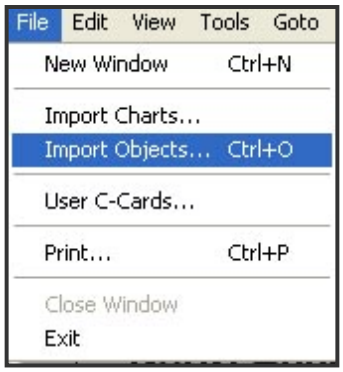
Such files can easily be imported into the program by using the Object Import Wizard. Click on the Quickstart icon from the main toolbar which displays the Wizard options.

Welcome to
BOATCRUISER
QuickStart Menu
• Wizards perform tasks for you (ex: Importing charts from your computer)
• Tutorials show you how various features work (ex: AIS)
You can access the Quick Start Menu anytime by clicking on in top menu bar
Chart Import Wizard
Import charts from your computer.
Device Finding Wizard
Find and connect to devices attached to your computer.
Object Import Wizard
Import objects from your computer.
Close

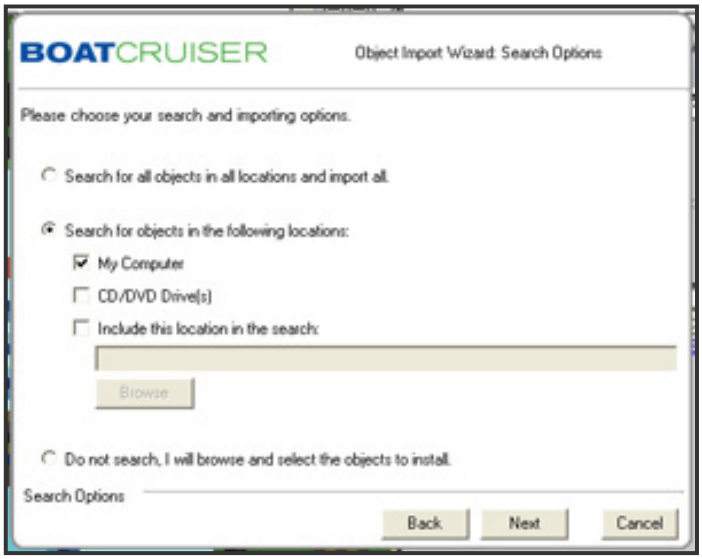

Welcome to
NAVCRUISER PRO™
QuickStart Menu
• Wizards perform tasks for you (ex: Importing charts from your computer)
• Tutorials show you how various features work (ex: AIS)
You can access the Quick Start Menu anytime by clicking on in top menu bar.
Wizards
Tutorials
Chart Import Wizard
Import charts from your computer.
Device Finding Wizard
Find and connect to devices attached to your computer.
Object Import Wizard
Import objects from your computer.
Show on startup
Close

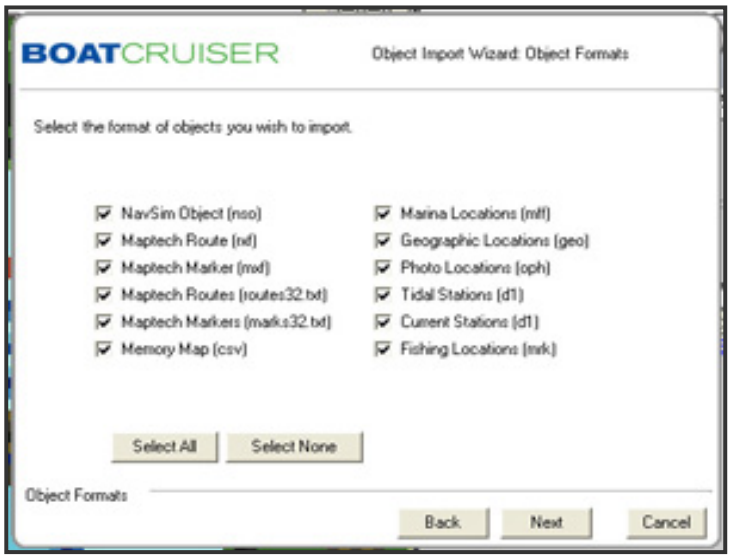
Select Object Import Wizard and follow the step-by-step instructions to import Location information into the program.

Location data can also be imported into BoatCruiser using the Main Menu as shown below:



Clicking on the Import Objects displays the search options the program uses to search for files of various data types.


BOATCRUISER
Object Import Wizard: Search Options
Please choose your search and importing options.
Search for all objects in all locations and import all.
Search for objects in the following locations:
My Computer
CD/DVD Drive(s)
Include this location in the search:
Browse
Do not search, I will browse and select the objects to install.
Search Options
Back
Next
Cancel



Using the above interface, the location (on the computer) and the types of the Location, files can be chosen. Once the Location data are successfully imported they can be viewed in the program's Main Chart View with unique icons depicting the different Location types.

Read the help section on Using Location on viewing the various Location data.

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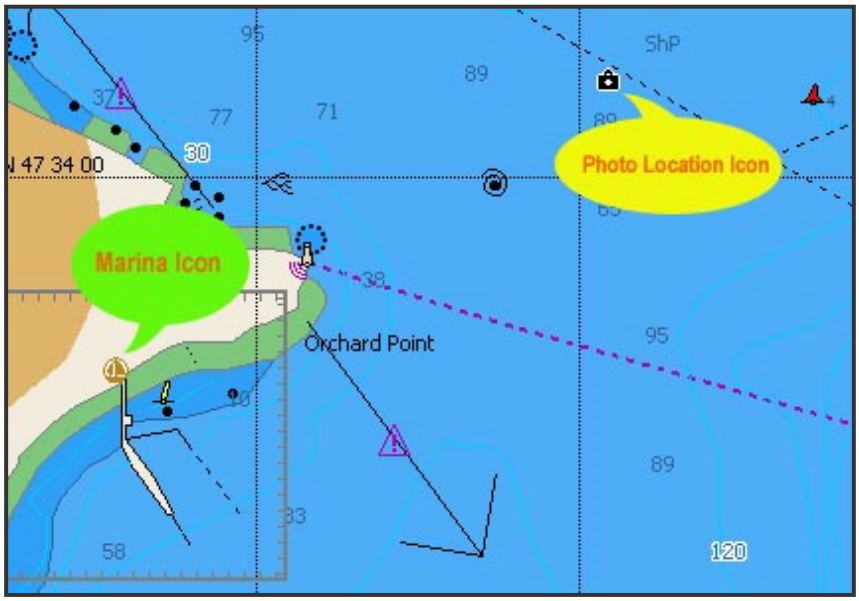
Using Locations

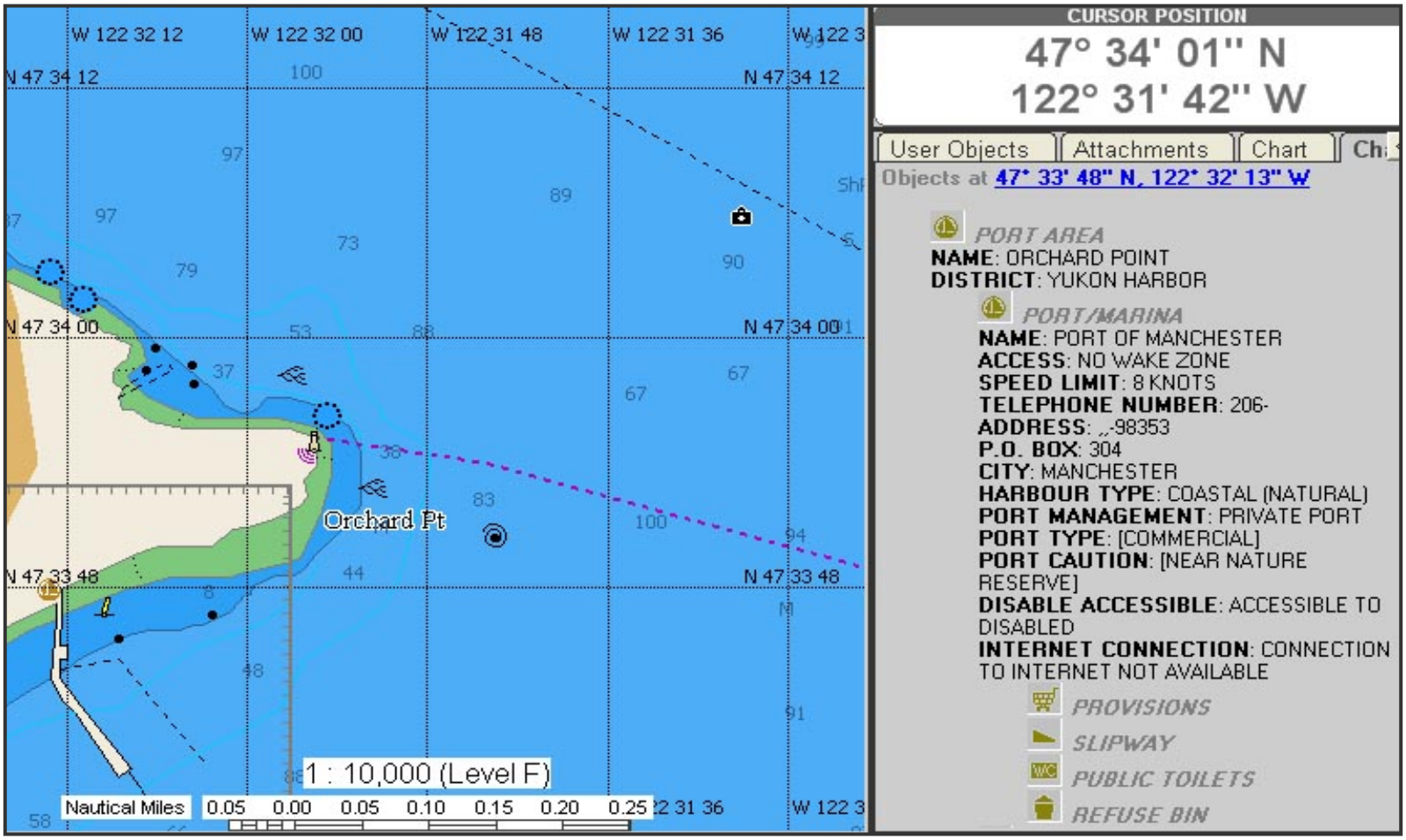
The program displays all supported Location types using different icons that are overlaid on the main Chart View. **(Note that locations are not available in S-57 chart displays.)** Clicking on the icon displays more information on the selected Location type in the Properties cell. The Properties cell can be viewed in the Planning Layout or in any custom Layout where the Properties cell can be chosen from the list of cells.

When imported, the program displays all Locations in the main Chart View with unique icons for each type of Location. For example, Marinas are displayed with the icon, Photo Locations are displayed with the icon as shown below (**Note: callouts in yellow and green with text (below) are for demonstration only. They will not appear on the chart.**)



Clicking on the Location of interest displays more information in the Properties menu. The following screenshot is a display of

detailed Marina information in the Properties celll.



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Navigation

Here's the basic steps to being navigation with our software

1. Connect you positioning device (e.g. GPS, AIS via pilot plug, etc.) to your computer
2. Use the device setup or device wizard to connect our software to your positioning device
3. Activate a route to enable additional navigation features other than position and COG (e.g. XTE, ETA, ETA List, etc.)

Navigational information is displayed in cells belonging to a layout. The basic information available for navigation include POS, COG, SOG, Trip, XTE, TTG WP, ETA WP, DIST WP, BEARING WP , TTG DEST, ETA DEST, DIST DEST, ETA LIST, TRUE HEADING, MAGNETIC HEADING, and ROT.

Since there is so much information available and limited space to view it, you may prefer to create your own layout(s) using your preferred navigational information. There are also a number of options that control the formatting of the navigational information displayed in layout cells.

1. You can specify the format for latitude and longitude in the general options
2. You can turn of the display of the units (e.g. km/h, kts, etc.) in the layout cells for maximum real estate for display of the numerical values so they are as large as possible. In this case, the units are displayed in the title for the layout cell.This option is avialable in the general options.
3. You can change the units that each navigational information is displayed in. For example you can choose to have speed show in knots, distances in nautical miles and cross track errors in feet.
4. You can choose the colors used to display the navigational information in the text cells. Use the color options to specify the colors used to display the navigational information.

See also real-time GPS tracking, eta calculations, AIS, dual positioning, and parallel indexing

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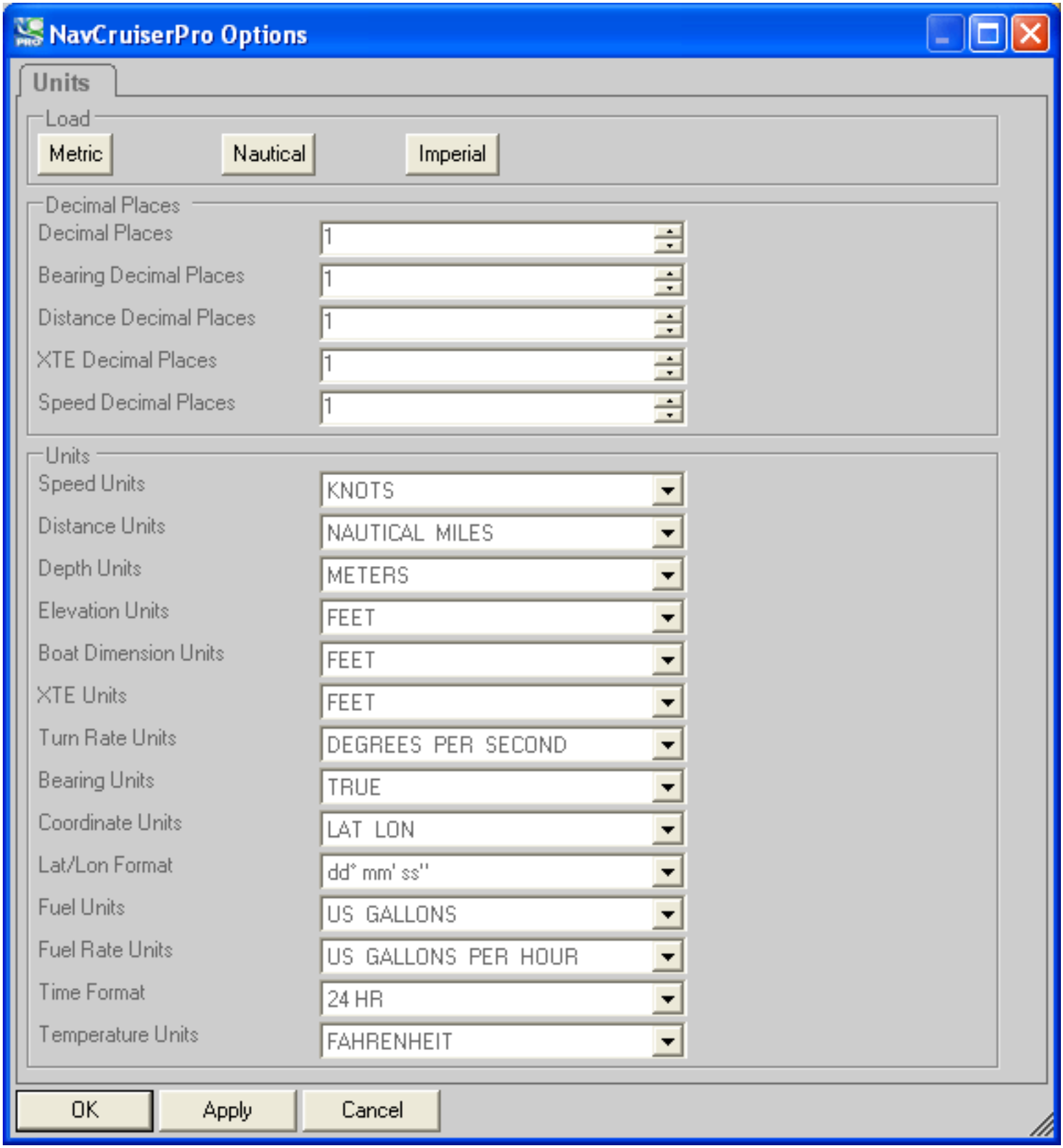
Unit Options

The Unit Options allows for easy change between Metric, Nautical and Imperial units. It also allows for configuation of specific unit measures. To save changes, click Apply.

Load Metric - Load all metric unit options
Load Nautical - Load all nautical unit options
Load Imperial - Load all imperial unit options

Decimal Places - controls the number of decimal places displayed for all other units not mentioned below
Bearing Decimal Places - controls the number of decimal places displaed for all bearings, headings and courses
Distance Decimal Places - controls the number of decimal places displaed for all distances except cross track errors
XTE Decimal Places - controls the number of decimal places displaed for all cross track errors

Speed Units - controls the units displayed for speeds (km/h, kn, etc.)
Distance Units - controls the units displayed for distances (ft, fm, km, nm, etc.)
Depth Units - controls the units displayed for depths (ft, fm, m)
Elevation Units - controls the units displayed for elevations (ft, m)
Boat Dimension Units - controls the units displayed for boat dimensions (ft, m)
XTE Units - controls the units displayed for cross track errors (ft, m, etc.)
Turn Rate Units - controls the units displayed for cross turn rates (degress per minute, degrees per second)
Bearing Units - controls the display of bearings, headings and courses (true, magnetic)
Coordinate Units - controls the display of coordiantes (Lat/Lon, UTM)
Lat/Lon Format - controls the formatting of lat/lon coordinates
Fuel Units - controls the units displayed for fuel units (US Gallons, Liters)
Fuel Rate Units - controls the units displayed for fuel rate units (US Gallons per hour, Liters per hour)
Time Format - allows time to be displayed in either 12 or 24 hour format
Temperature Units - controls the units displayed for temperature units (celcius, fahrenheit)



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Radar - Parallel Indexing

Radar - Parallel Indexing is a feature of NavCruiser PRO meant to emulate the process of parallel indexing on some radar systems. Parallel indexing is an advance navigation technique mainly used to keep a safe distance from a navigational hazard (shoreline, rocks, etc.) The Radar - Parallel Indexing feature is a visual aid to indicate when the vessel has drifted too close to a navigational hazard. When the navigational hazard is drawn between the parallel indexing line and the Electronic Bearing Line (EBL) the mariner knows that he has come to close to the hazard and must correct for this error.

Radar - Parallel Indexing consists of a radar ring, electorning bearing line, Variable Range Marker (VRM) and an Indexing Line.

The 'Radar - Parallel Indexing' feature can be turned on and off using the menu under 'View->Radar - Parallel Indexing'.

The radar ring shows bearings from the conning position of the vessel, at 10 degree intervals. The range of the radar ring is automatically adjusted to the maximum size that will fit within the current view area using the following ranges (nautical miles): 0.05,0.1,0.15,0.25,0.5,0.75,1.5,3,6,12,24,48,96,192,384,768. The radar range is displayed in the center of the radar ring. The color of the radar ring can be specified in the 'Radar - Parallel Indexing Options'. The radar ring may also be turned on and off using the the 'Radar - Parallel Indexing Options'.

The combination of EBL and VRM uniquely identiy a parallel indexing line. The indexing line is drawn tangent to the VRM, parallel to the EBL at the interestion of the VRM and the starboard beam bearing line. The option 'Show Port Indexing Line' drawns an additional indexing line, using the same EBL and VRM, only this time using the port beam bearing line. If the 'Show Port Indexing Line' is enabled, there will be three parallel lines - the EBL and two indexing lines one on the port side the other on the starboard side.

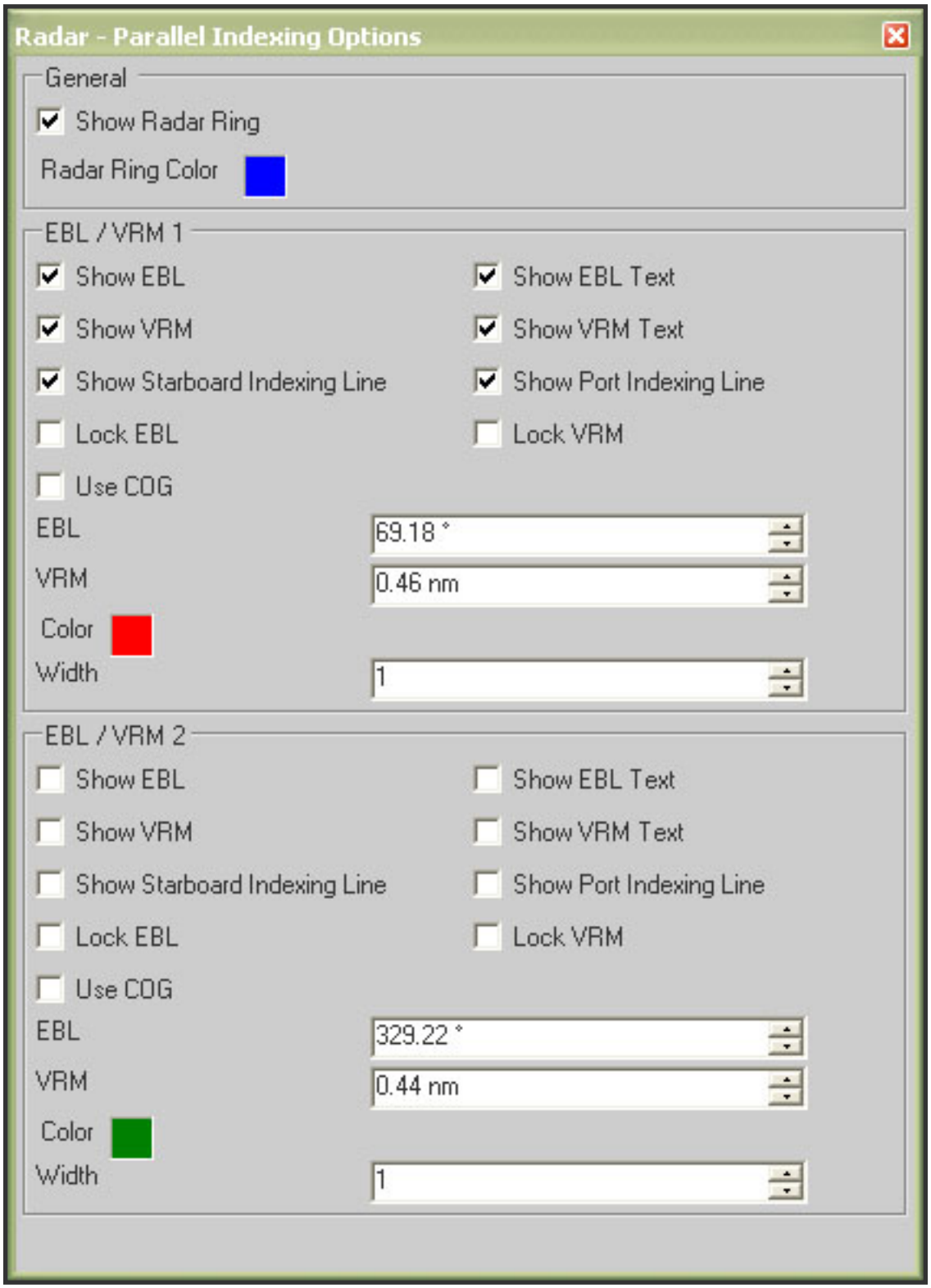
To facilitate parallel indexing off of two points using two separate EBL's, there are two sets of EBL/VRM options. Initially, the second set of EBL/VRM options are all off. Each set of parallel indexing tools is color coded for easy identification.

The angle of the EBL can be set in 2 ways: entering a value into the Radar - Parallel Indexing optiosn; or by rotating the EBL with the mouse by clicking and holding the left mouse button on the EBL, moving to the desired position, then releasing the left mouse button.

The size of VRM can be set in 2 ways: entering a value into the Radar - Parallel Indexing optiosn; or by resizing the VRM with the mouse by clicking and holding the left mouse button on the VRM circle, moving to the desired position, then releasing the left mouse button.

Radar-Parallel Indexing Options

Radar - Parallel Indexing options can be opened using the menu under 'Tools->Options->Radar - Parallel Indexing' or by clicking the 'Radar - Parallel Indexing Line Options' in the toolbar. These options can be left open while working with the program (unlike the other options).



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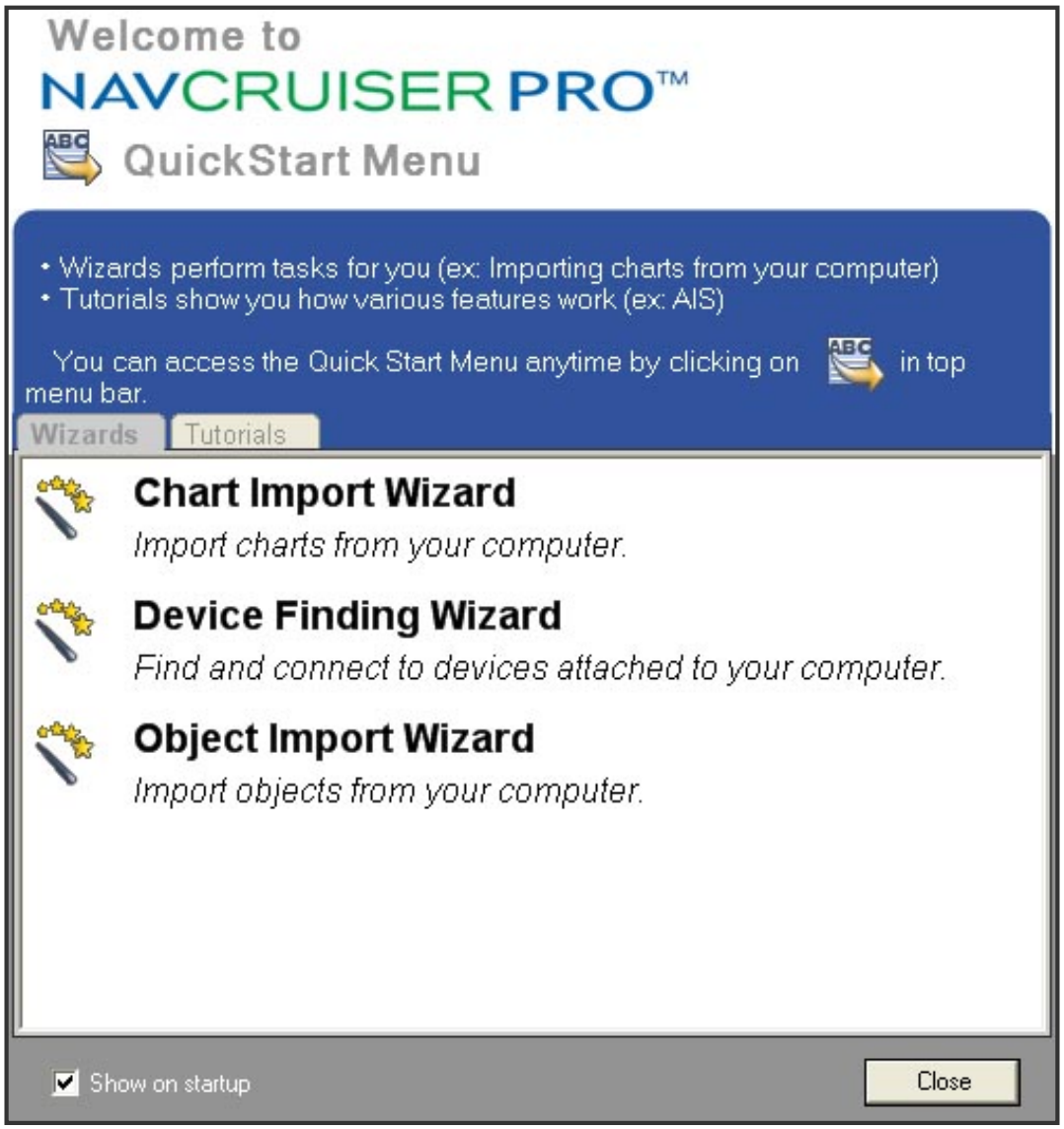
Basic Operations

- QuickStart Menu
- Importing Charts
- Activation Codes
- Panning
- Zooming
- Creating Routes
- Creating Markers
- Creating Zones
- Tilting
- Mouse Functions
- Multiple Windows

QuickStart Menu


Welcome to
NAVCRUISER PRO™
QuickStart Menu
• Wizards perform tasks for you (ex: Importing charts from your computer)
• Tutorials show you how various features work (ex: AIS)
You can access the Quick Start Menu anytime by clicking on in top menu bar.
Wizards
Tutorials
Chart Import Wizard
Import charts from your computer.
Device Finding Wizard
Find and connect to devices attached to your computer.
Object Import Wizard
Import objects from your computer.
Show on startup
Close

Upon opening the program the QuickStart Menu will automatically appear. Contained within are Wizards that will help with importing charts/objects from the computer as well as find and connect to devices attached to the computer. There are also Tutorials that further explain features such as: AIS, Layouts, Routes, Simulation and Time Machine. The QuickStart Menu can be accessed at any time via the Main Toolbar.

Importing Charts

The first time using this program, the World Chart will be displayed and will act as a default chart. To see more detailed nautical charts and topographic maps, they must first be Imported.

To learn more about Importing, see Importing & Exporting.

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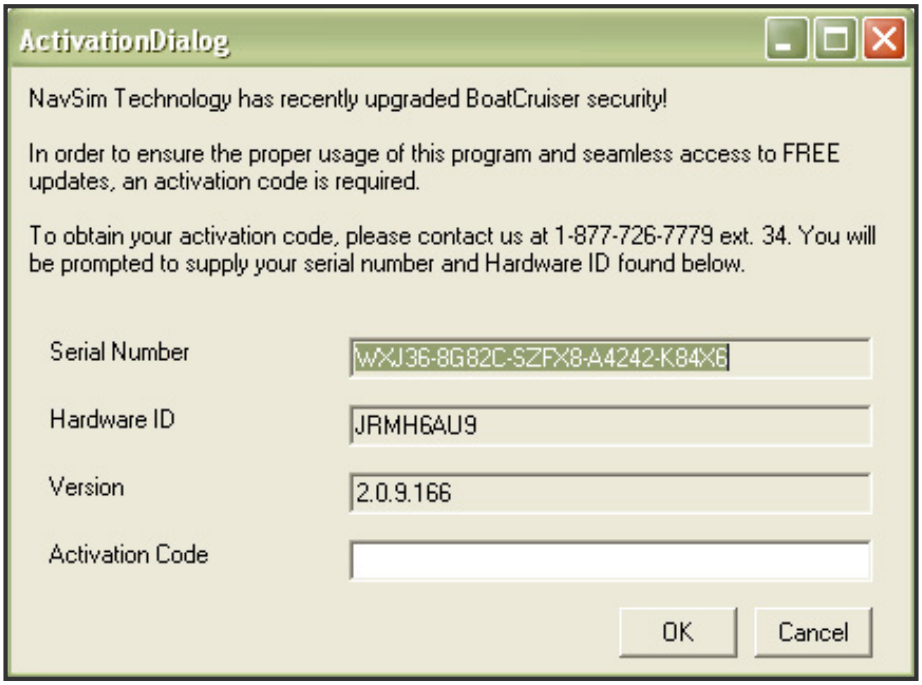
Activation Codes

Activation Codes are necessary given the following three scenarios:

- When installing the program on a second computer
- In the event that the computer crashes and re-installation must occur
- If during initial installation there is no connection to the internet


ActivationDialog
NavSim Technology has recently upgraded BoatCruiser security!
In order to ensure the proper usage of this program and seamless access to FREE updates, an activation code is required.
To obtain your activation code, please contact us at 1-877-726-7779 ext. 34. You will be prompted to supply your serial number and Hardware ID found below.
Serial Number
WXJ36-8G82C-SZFX8-A4242-K84X6
Hardware ID
JRMH6AU9
Version
2.0.9.166
Activation Code
OK
Cancel

Activation Codes are obtained by contacting NavSim Support. (Note: Have Serial Numbers, Hardware ID and program

Version on hand when contacting NavSim). You can also email NavSim for an activation code at info@navsim.com

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Panning

Panning is the act of moving a chart up, down, side-to-side, or diagonally.

First click the Selector icon in the Main Toolbar, then in the Main Chart View, when holding down on the left mouse button the chart will move as the mouse moves. The arrow keys on the keyboard can also be used to Pan the chart.

To learn more about Panning, see Charts.

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Zooming

To Zoom in and out, use the Zoom In and Zoom Out buttons in the Main Toolbar (or the + and - keys on the keyboard). When moving the mouse over one of the Zoom buttons and holding down the left mouse button, the chart will Zoom repeatedly until the left mouse button is released. If the mouse has a scroll wheel (between the left and right mouse buttons) it can be used to Zoom in and out.

To learn more about Zooming, see Charts.

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Creating Routes

To create a route, click on the Create Route button in the Main Toolbar. Click the left mouse button in the Main Chart View to insert Waypoints for the Route. End the Route by double clicking on the last Waypoint. Properties of the Route can be viewed by right clicking to activate the Route Context Menu, in the NavManager or in the Main Toolbar under Edit.

To learn more about Routes, see Routes.

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Creating Markers

To create a Marker, click on the Create Marker button in the Main Toolbar, then click the left mouse button anywhere in the Main Chart View to insert the marker. Properties of the Marker can be viewed by right clicking to activate the Marker Context Menu, in the NavManager or in the Main Toolbar under Edit.

To learn more about Markers, see Markers.

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Creating Zones

To create a zone, click on the Create Zone button in the Main Toolbar. Click the left mouse button in the Main Chart View to insert waypoints for the Zone. End the Zone by double clicking on the last point that is being assigned for the Zone. Properties of the Zone can be viewed by right clicking to activate the Marker Context Menu, in the NavManager or in the Main Toolbar under Edit.

To learn more about Zones, see Zones.

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Tilting

The Main Toolbar contains three icons that involve Tilting the chart view. This can be particularly useful to see the Chart on a different angle. Click on the Tilt Down button to move the chart downwards, the Tilt Up button will move the Chart upwards and the Reset Tilt button will bring the Chart back to the normal view.

To learn more about Tilting, see Charts.

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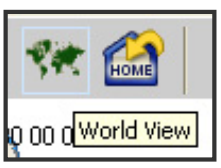
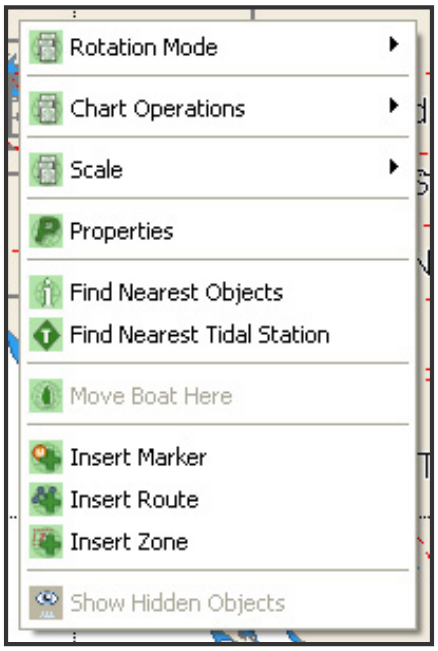
Mouse Functions

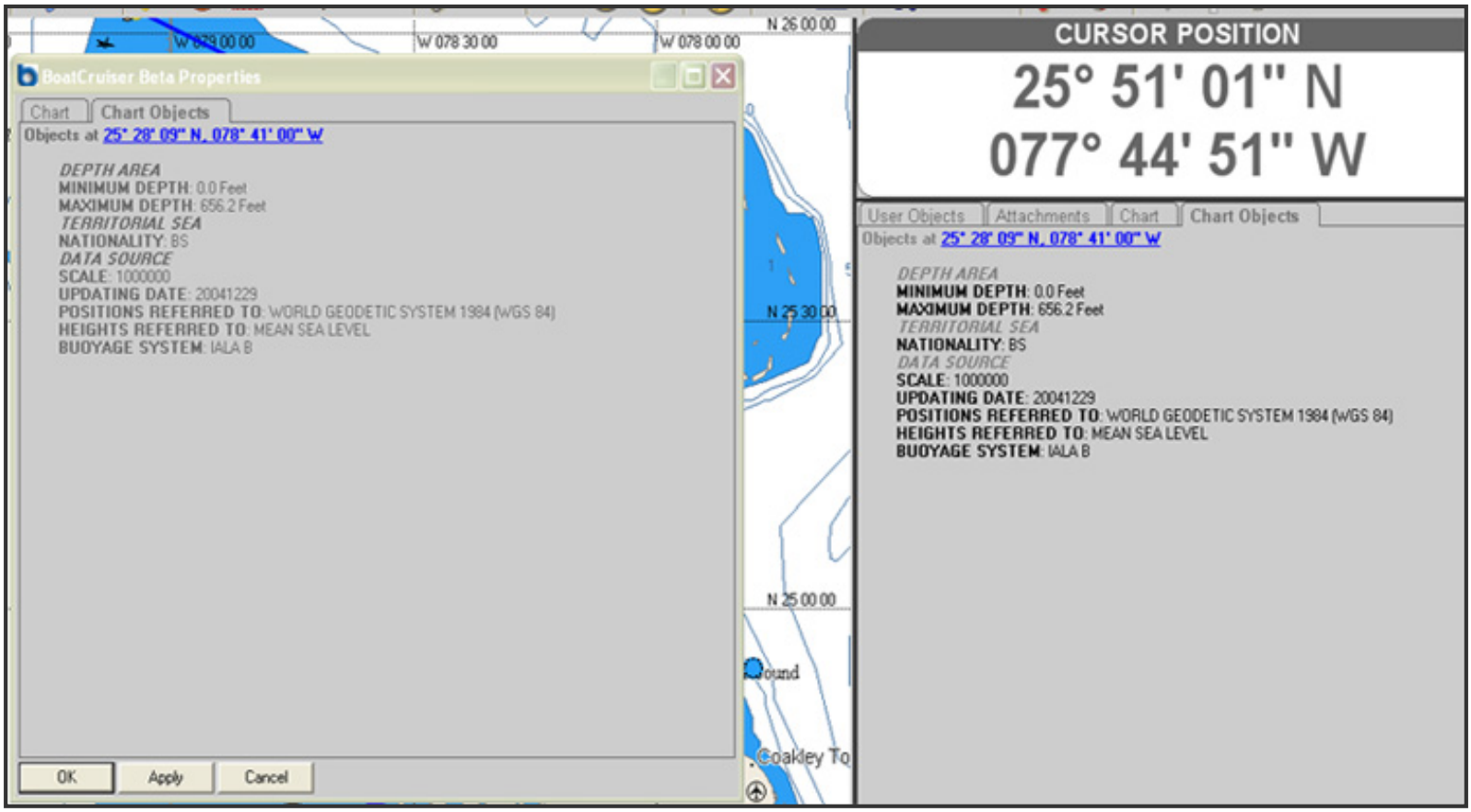
Hover: When hovering over an item for appx. 2 seconds in the Main Toolbar a tip tool will appear providing the name of that button.



Right Click: This will display the context menu as indicated below.



Double Click (Left): Double clicking will cause several different actions to occur, depending on where you double click. For example, if double clicking on a chart the chart properties will appear; if double clicking on a route the route properties will appear. As well, if the layout is designed to show the properties cell, the detailed object/chart information will be displayed.



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Multiple Windows

When using windows-based programs, the user has the ability to view data on two different screens. This function can be particularly useful when applied to NavSim programs in that one screen can display a chart,giving maximum chart view, and the other screen can be used to display a wide variety of information. For more information on screen setup please see Layouts.

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Boat/Vessel Settings

Boat/Vessel settings are used to customize various aspects of the boat/vessel including its shape and size, fuel efficiency as well as other settings.

Display:

Shape - Controls the general shape of the vessel (small boat, large ship, triangle, etc.)

Length - The real length of the ship, used for drawing the ship to scale

Draft - The draft of the ship

Width - The real width of the ship, used for drawing the ship to scale

Show Bulls Eye When Not To Scale - The ship is drawn to scale for the most part. However, when zooming out eventually the ship becomes so small that it no longer looks like a ship, but more like a dot. At that point we have two choices: draw the ship as a bulls eye; or draw the ship shape but not to scale. This option controls this behavior.

Conning Offset:

The conning offset is the location of the conning position (see definitions for an explanation of conning position)relative to the bow and centerline of the ship. The conning offset can be set using the digital X,Y inputs or graphically by clicking on location on the ship with the mouse.

AIS Gyro Offset:

On some older ships, the gyro is off consistently off by several degrees. This option allows for correction of this error. The gyro offset is added to the heading to get the corrected heading.

Predictor Line:

Enabled - controls wheter to display the predictor lines. If enabled

Show COG - controls the display of the course over ground predictor line. If this is on, then a black line will be drawn from the GPS position of the ship at the current course with a length equal to the distance the vessel would travel in the specified time interval.

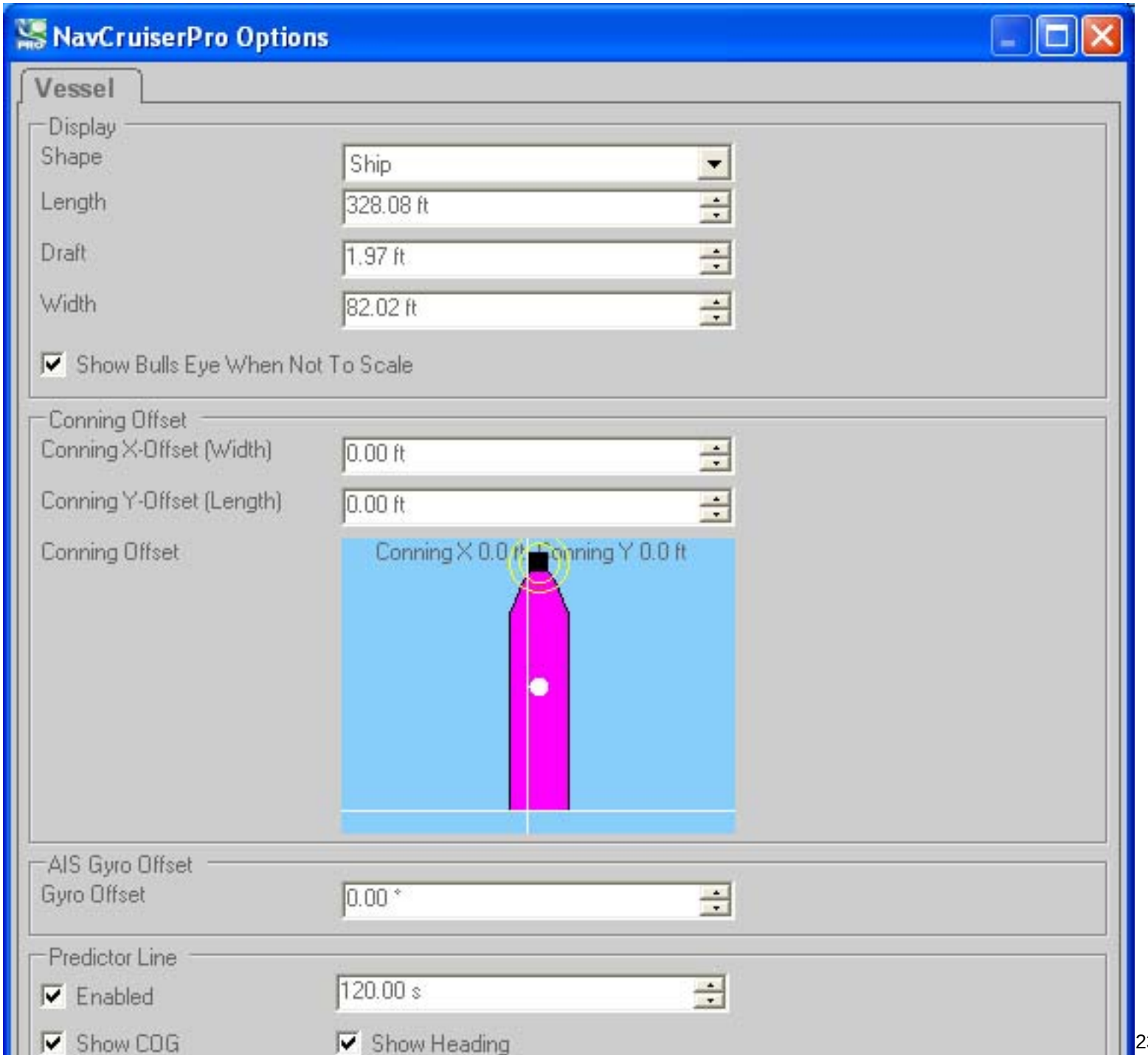
Show Heading - controls the display of the heading predictor line. If this is on, then a red line will be drawn from the center of the ship at the current heading with a length equal to the distance the vessel would travel in the specified time interval.

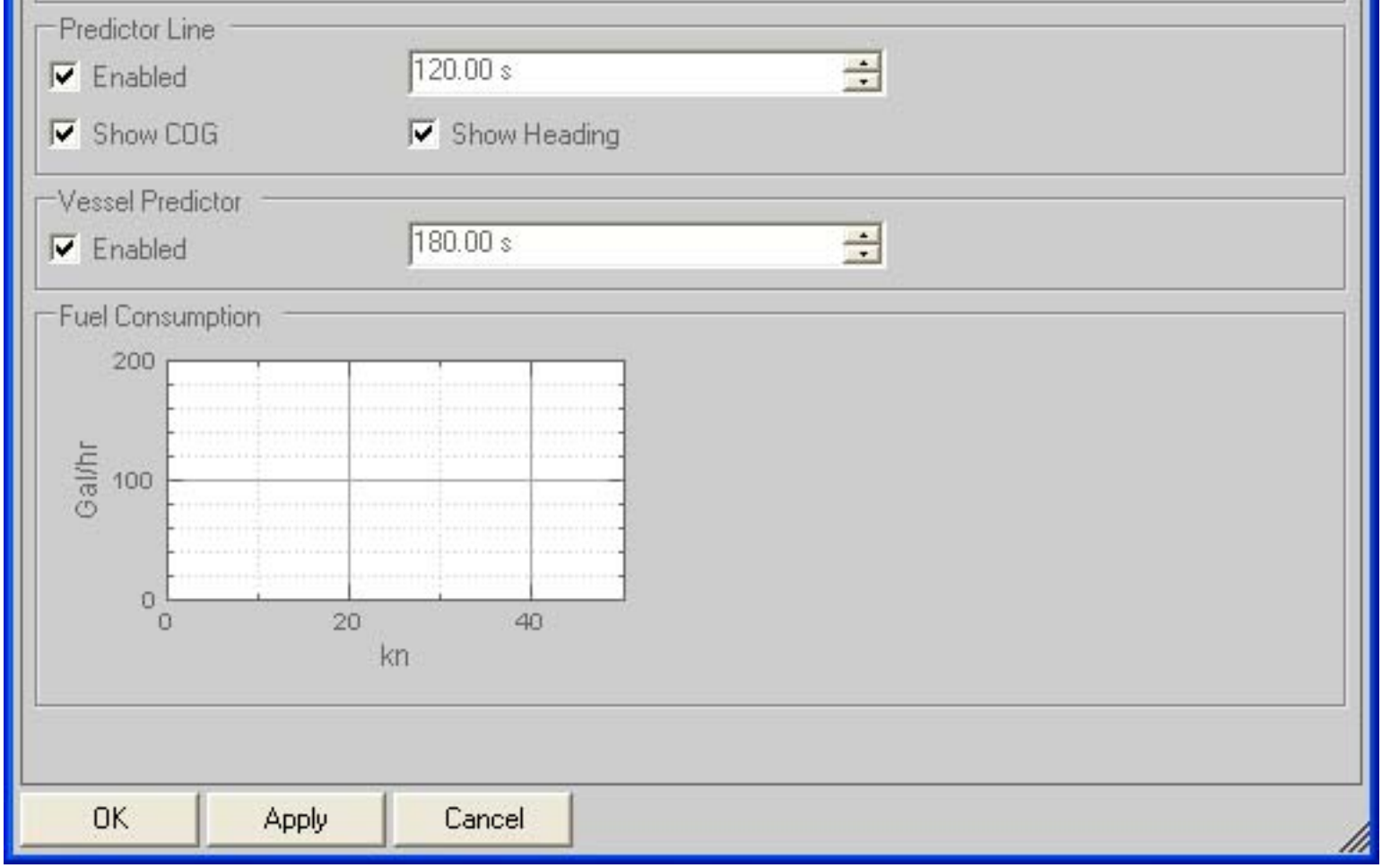
Vessel Predictor: (NCPRO only)

Enabled - controls wheter to display the vessel predictor. If on, then a series of shapes will be drawn at 60 second intervals up to the specifed total interval, indicating the approximate vessel movement. The vessel precitor takes into account the ROT of the ship into its calculations (unlike the predictor lines)

Fuel Consumption:

Setting up the Fuel Calculator feature enables BoatCruiser to compute and display several fuel related estimates useful while planning or navigating a trip. Read the help section on Fuel Calculator on more information on setting up and using the Fuel Calculator feature.





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Simulation Options

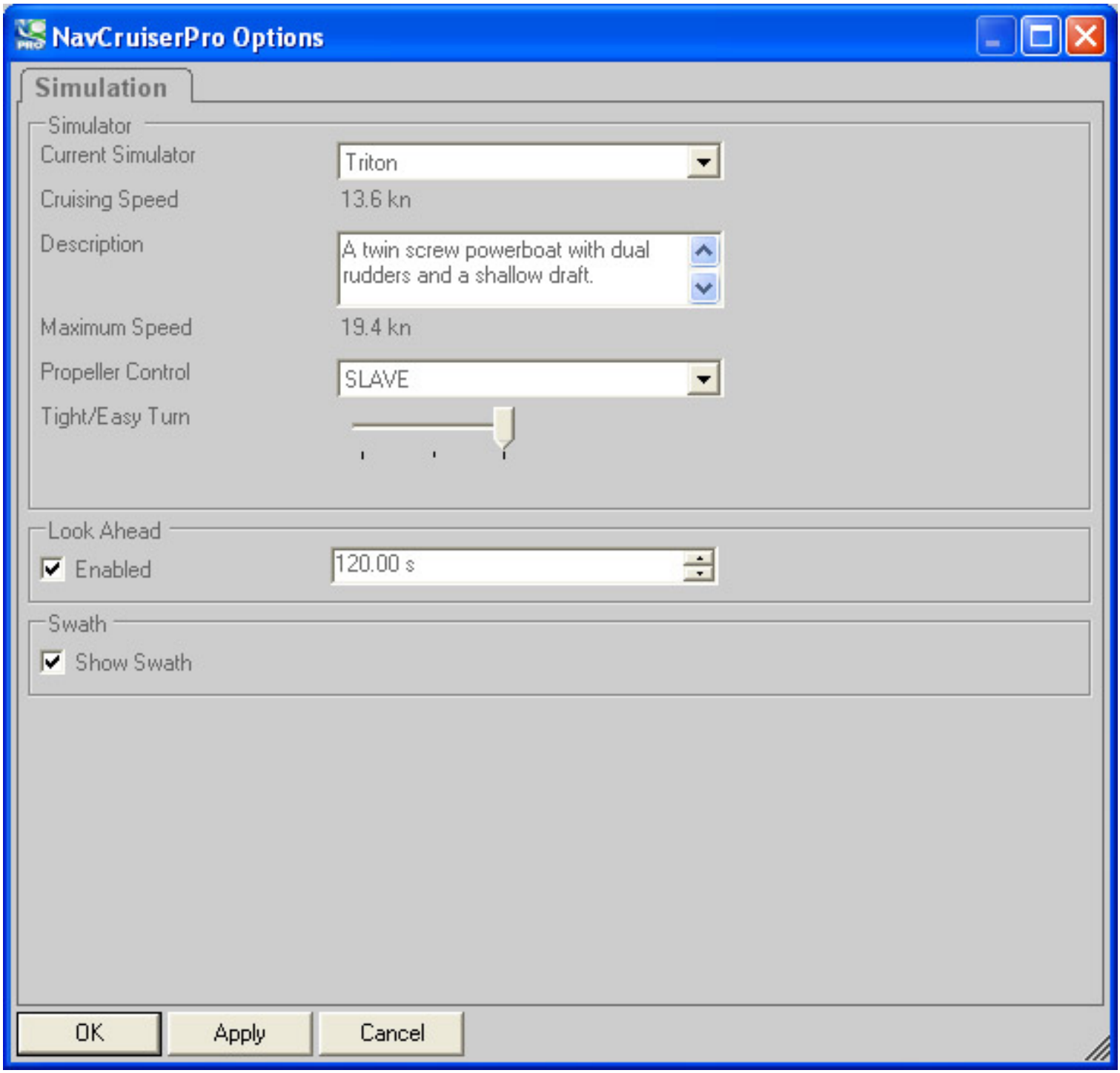
Current Simulator - The Simulation settings are used to select a simulator from a choice of three boat/vessel models, namely, Triton (cruiser), Poseidon (work-boat) and Osaka (tanker).

Simulated vessels have a built-in controller for route navigation.

Tight/Easy Turn - The tightness of the turns that the controller makes can be set in terms of tight and easy turns using the slider. Tight turns are sharper and follow the Route closer. Easy turns are smoother than tight turns but, depending on the turn involved, the boat maybe further away from the waypoint in the Route. Differential use of propellers is also used by the built-in guidance system to make more efficient turns.

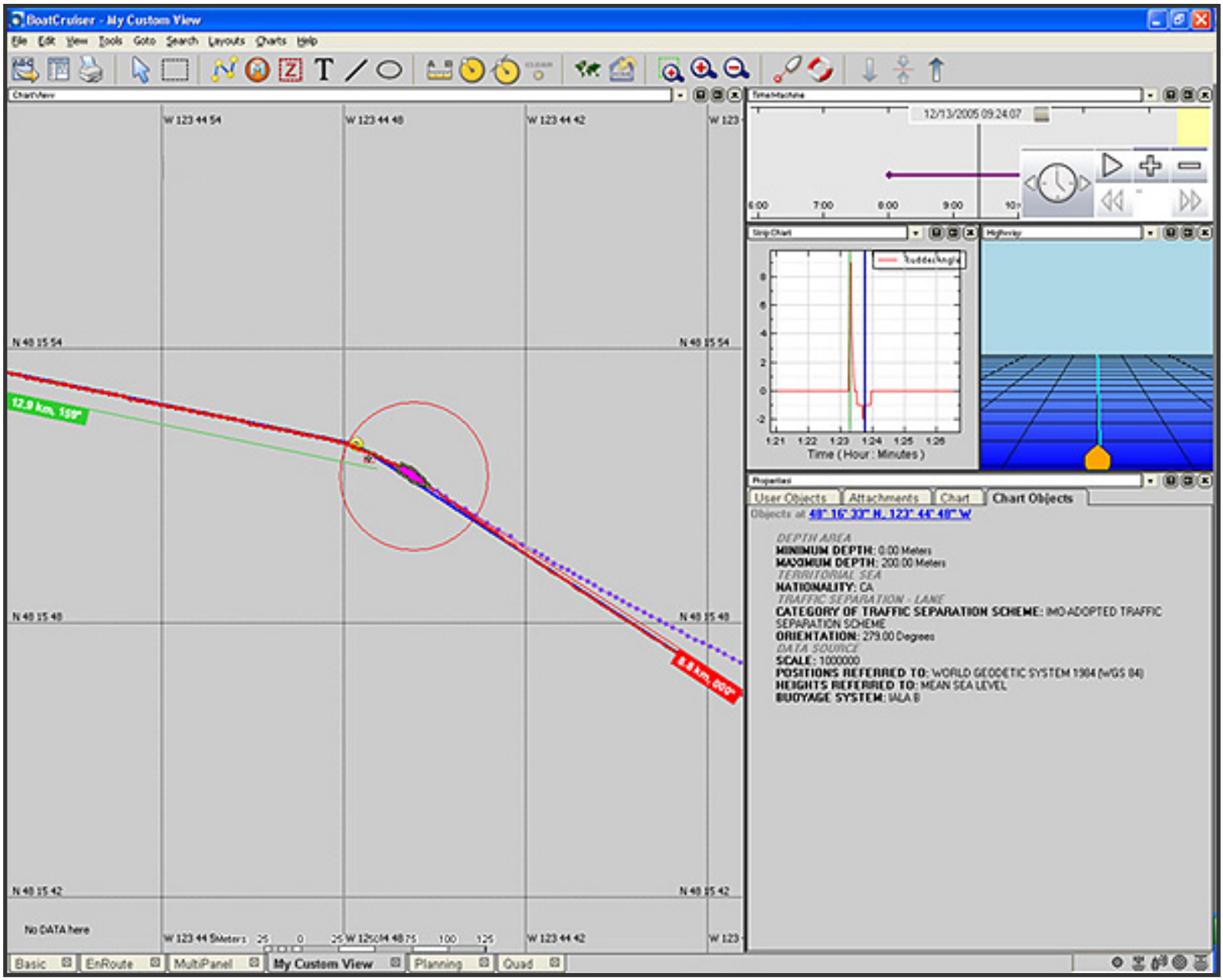
Propeller Control - Can be set to slave mode or differential. In slave mode, both propellers are locked and controlled together. In differential, the propellers can be controlled individually.

The Look Ahead Enabled feature (works only in simulation mode) enables the advanced simulation mode with which the future position of the boat is simulated based on current boat state (position, heading, rate of turn, rudder angle, engine rpms, etc.).

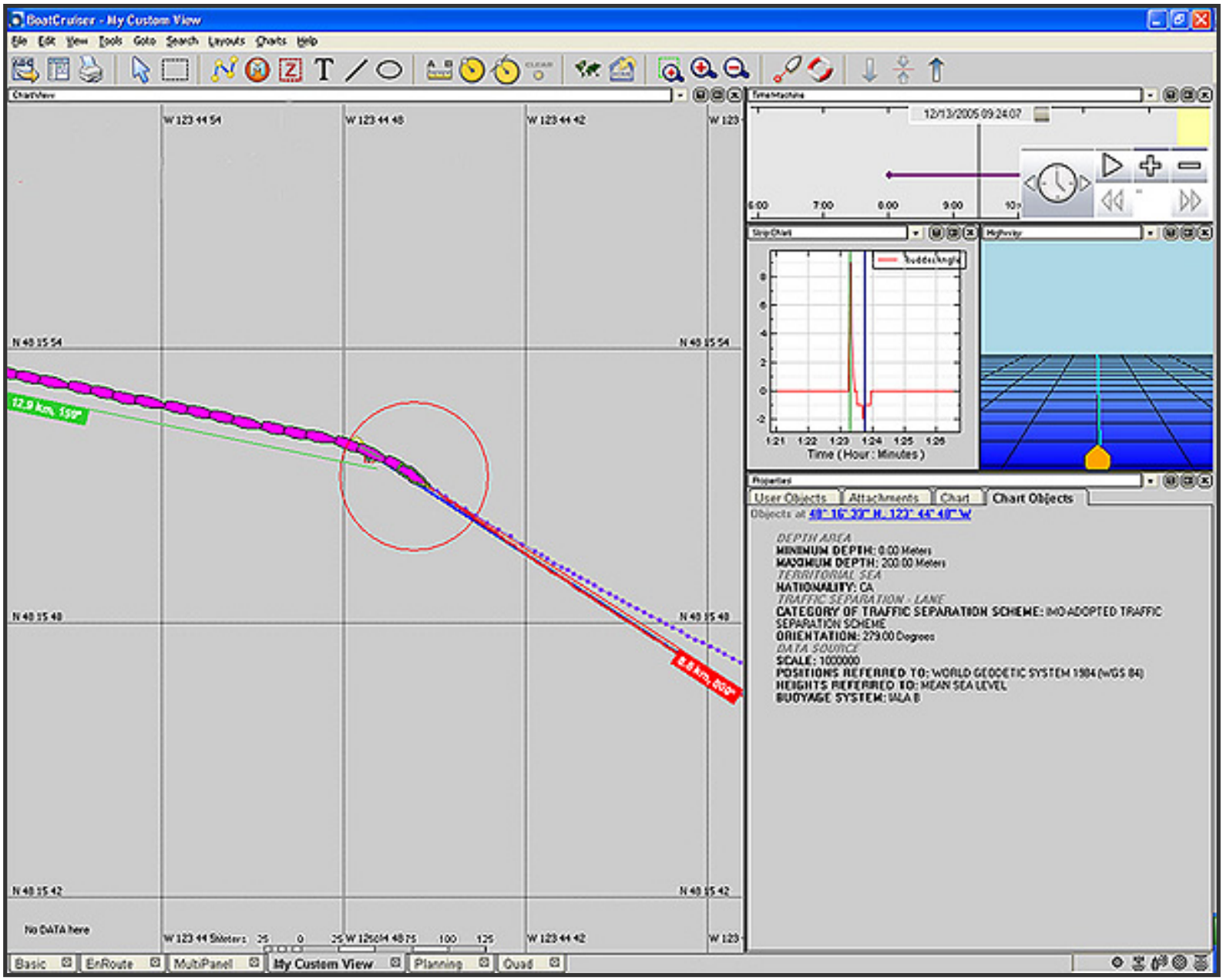


The Show Swath setting is useful especially when reviewing tracks and the swept path (swath) of the boat is of interest. The two screenshots shown below illustrate the use of the Show Swath setting.

Show Swath setting turned OFF



Show Swath setting turned ON



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Simulating the Boat/Vessel

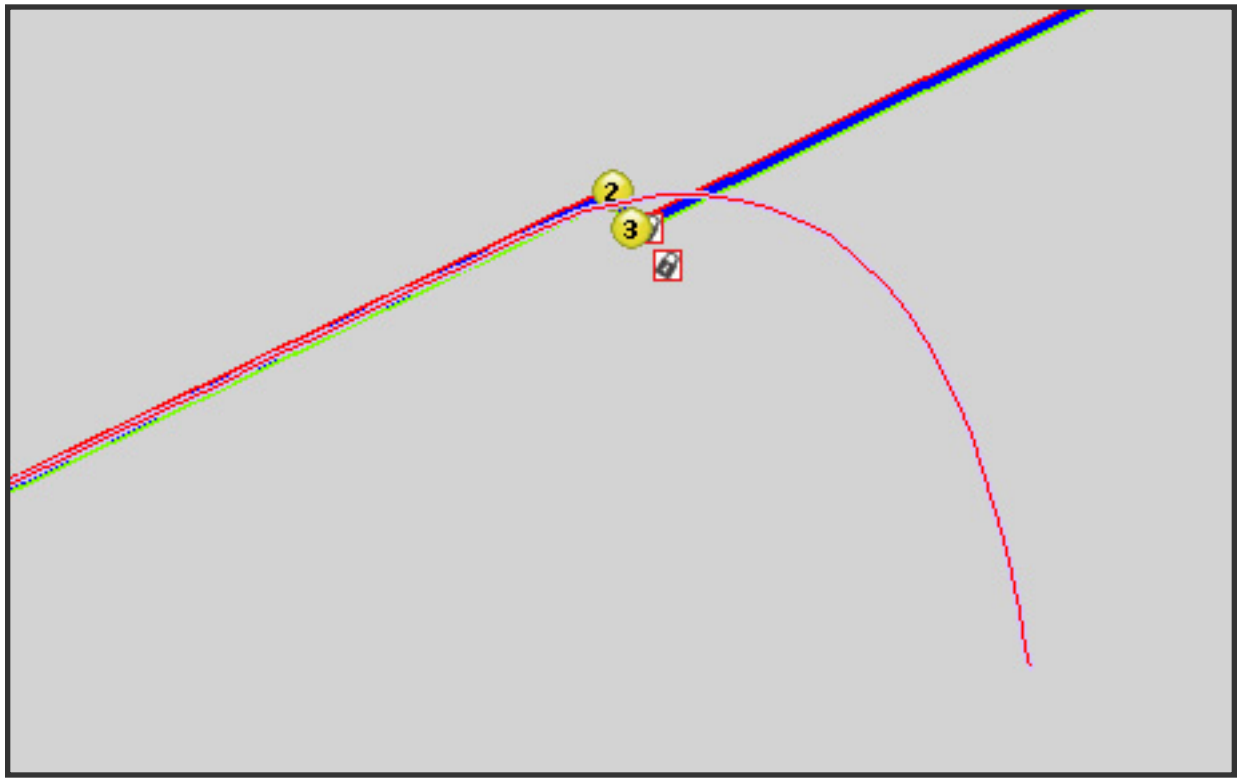
About Simulation (BoatCruiser and NavCruiser PRO only)

BoatCruiser and NavCruiser PRO use a scientifically modelled boat simulator to demonstrate how the built-in NavSim autopilot tracks various Routes. The simulator runs faster than real-time, allowing the captain to quickly simulate into the future. Various simulation options can be set by accessing the Simulation tab under BoatCruiser/NavCruiser PRO Options). In the future, NavSim Technology Inc. will provide custom simulation of boats based on user specifications.

The boat simulation also uses NavSim's guidance system algorithm, which presently is configured to control the simulated boat by making turns slightly before a Waypoint is met. This way, the momentum of the boat can be used to carry it smoothly through turns with minimal rudder movement. Within the Simulation tab under BoatCruiser/NavCruiser PRO Options the tightness of the turns that the controller will make can be set in terms of tight and easy turns using the slider. Tight turns will be sharper and will follow the Route more closely. Easy turns will be smoother than tight turns but, depending on the turn involved, the boat maybe further away from the Waypoint in the Route. Differential use of propellers is also used by the guidance system to make more efficient turns. This option can be selected in the Simulation tab under BoatCruiser/NavCruiser PRO Options). Please read the help section on BoatCruiser/NavCruiser PRO Options for other Simulation setting information.

Note that the scientific model used in the program to simulate the boat trajectory is based on real world physics. It is important to note that the guidance system algorithm depends on the physics of the modelled boat to function. Therefore, there are special cases where the modelled boat can get lost, or not simulate the way expected. A good rule of thumb is to attempt simulations on Routes that can be attempt ed in the real world. Below is an example of an unrealistic scenario.

The boat that is being used is a large vessel (110 feet long) with the distance between Waypoint two and three being 48 feet. The boat is traveling at 9.72 knots. The control algorithm may skip over this piece of the Leg resulting in the simulation stopping prematurely, or having unexpected results. In the case shown below it stops prematurely:



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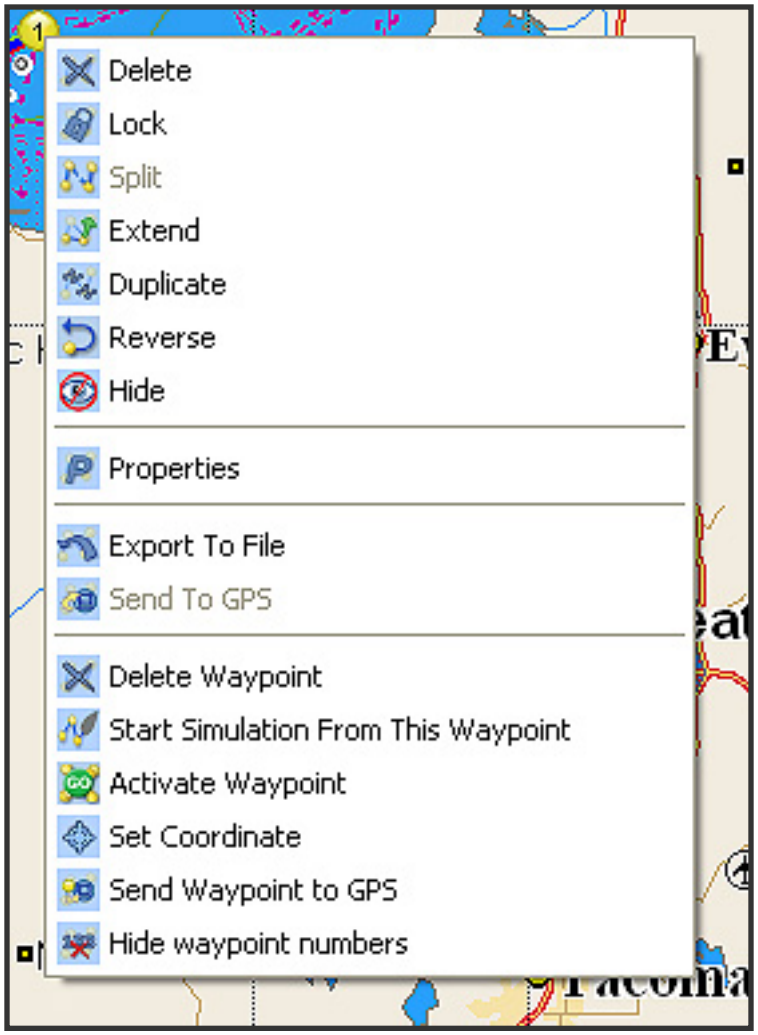
Setting up and Starting a Simulation

To simulate how a boat will follow a Route, a Route must first be created. The default Leg speed or the cruising speed can be changed if desired. The help section on Routes provides more information on various Route settings such as Leg speed etc. The simulation can be performed on a Route by opening the Context Menu (right-click on any Waypoint) and selecting the Start Simulation from this Waypoint option as shown below:



The type of vessel simulated can be selected from the Simulation tab under BoatCruiser/NavCruiser PRO Options.

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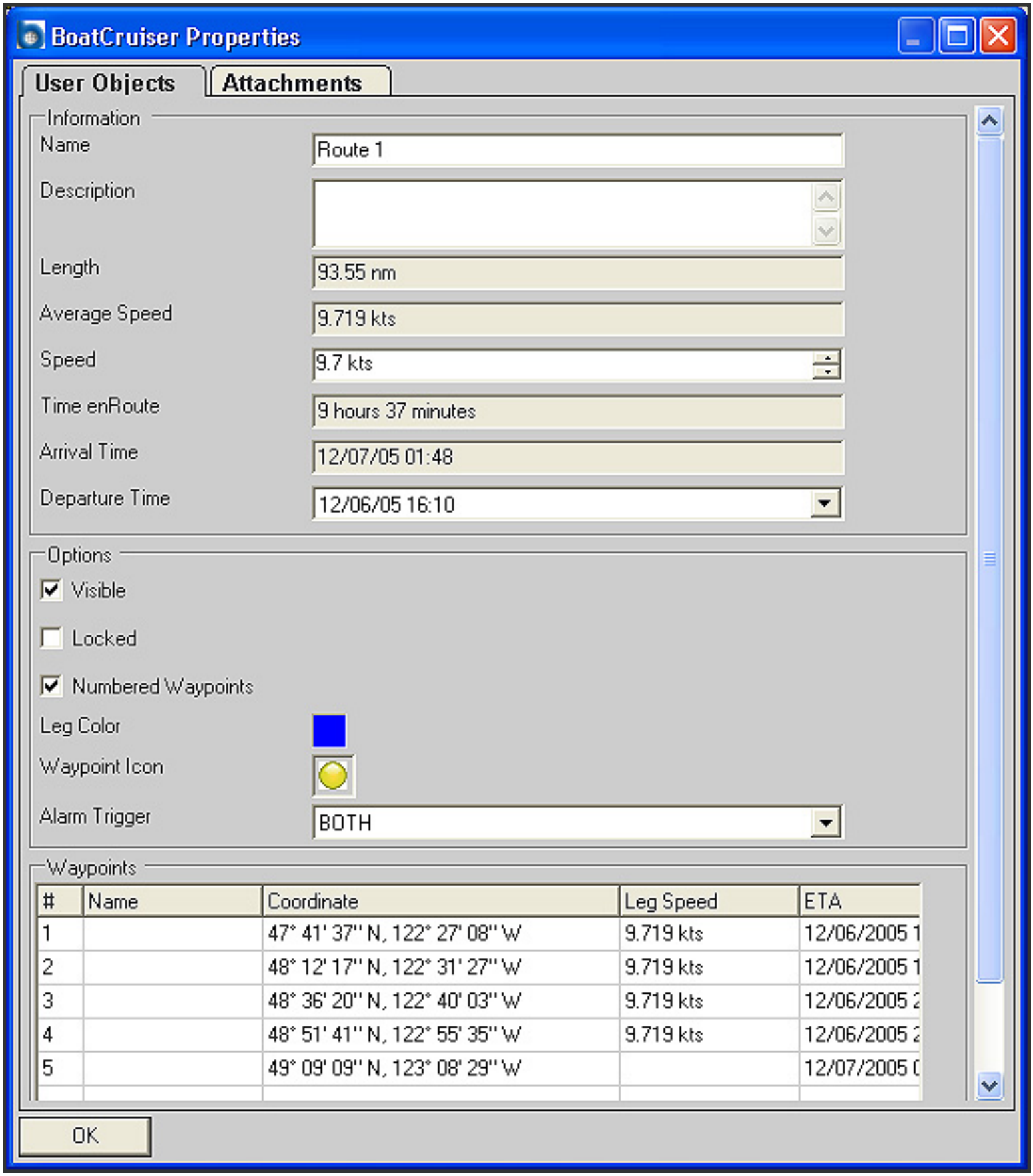
Setting the Desired Leg Speed

Routes are composed of Route Legs (the straight-line segments between Waypoints) and it is possible to select a cruising speed for each Leg. The Leg speed can be set or modified in the Route Properties view as shown below. Double-clicking on the Route brings up the Route Properties page.



By default, the cruising speed of the specific boat type is set. The units used in the program interface such as metric, imperial or nautical units can be changed in [BoatCruiser/NavCruiser PRO Options](#).

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Reviewing and Playing Back The Simulation

Once the simulation is underway, the boat picks up speed and adjusts its heading to stay on track. The boat motion creates a thin purple trace to show where it has been. The shape and color of the simulated boat can be set by using the Boat tab under BoatCruiser/NavCruiser PRO Options.

Please read the section on Reviewing a Simulated Trajectory and Working with Trajectories for detailed information.

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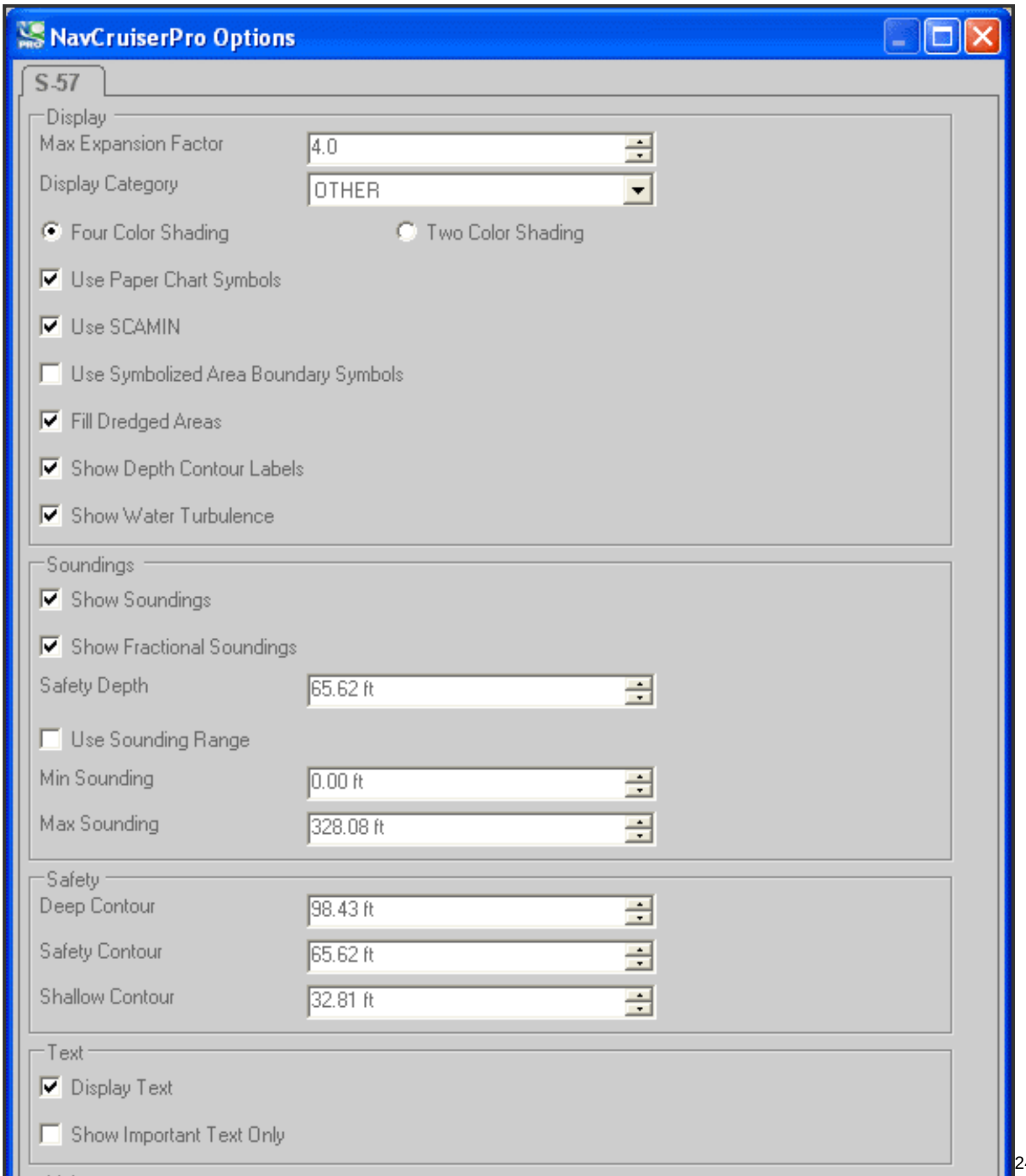
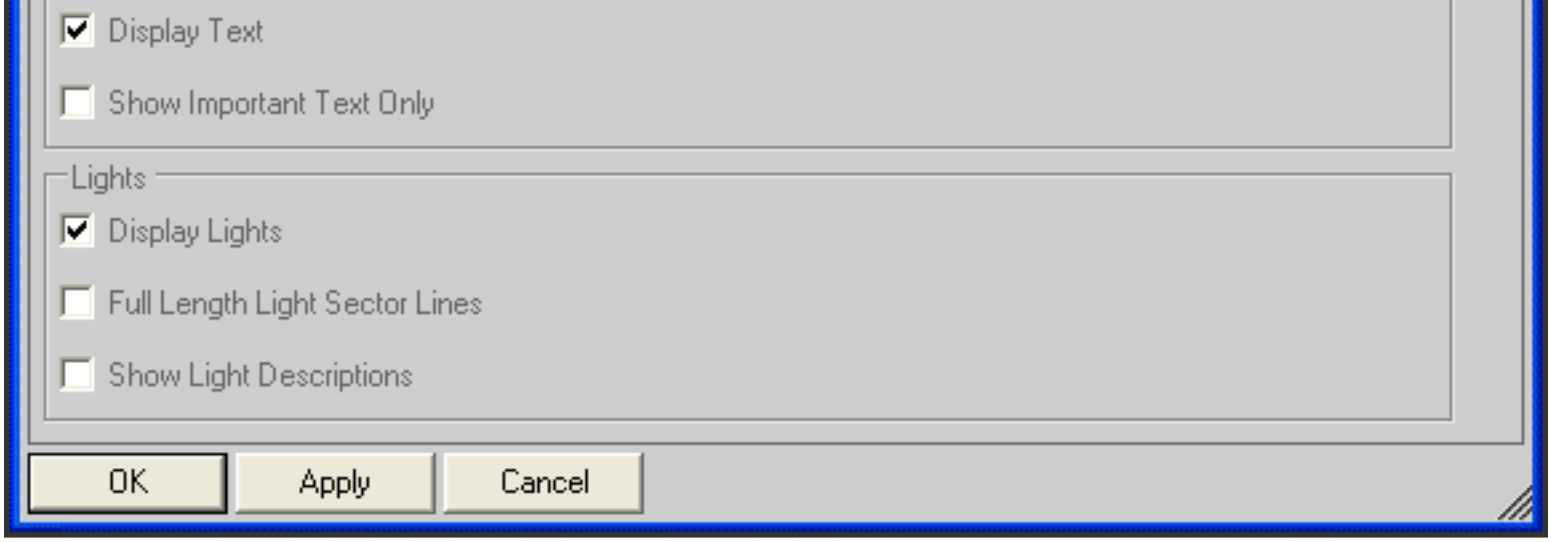
S-57 Vector Chart Settings

The S-57 Vector Chart settings are used to change the display settings of S-57 Charts only. All of the S-57 Chart display options can be set using this interface.





Display:

Max Expansion Factor - S-57 charts will only be displayed when the current display scale is less than or equal to the original chart scale multiplied by the maximum expansion factor. The maximum expansion factor must be between 1 and 10. The default is 4.0 times the original chart scale.

Display Category - Chart objects are grouped into three categories (base, standard, and other). Base objects are a subset of standard objects (and all objects), and standard objects are a subset of all objects. Only those objects which fall into the current display category will be drawn. Note that Base objects are a mandatory requirement for safe navigation.

Two and four color shading - Determines how depth areas are colored, either using two or four colors. In two color shading, there are 2 depth ranges (with 2 distinct colors): less than the safety contour; and greater than the safety contour. In four color shading there are 4 depth ranges (with 4 distinct colors): less than the shallow contour; greater than the shallow contour and less than the safety contour; greater than the safety contour and less than the deep contour; and greater than the deep contour.

Use Paper Chart Symbols – if checked, symbols (e.g. lights, buoys, etc.) are drawn as they would appear on a paper chart, otherwise they are drawn in a simplified form.

Use SCAMIN – if checked, if chart objects are displayed using their minimum scale (if present). This is used to reduce clutter.

Use Symbolized Area – if checked, some areas can be drawn with symbols on its border, otherwise it will be drawn with straight lines. This determines how areas are to be drawn.

Show Soundings – if checked, depth soundings will be displayed.

Fill Dredged Areas - Controls filling dredged areas with the dredged area patter. This can be turned off to reduce clutter.

Show Depth Contour Labels - Controls the display of contour values on depth contour lines.

Show Water Turbulence - Controls display of water turbulence (e.g. Tide Rips).

Soundings:

Show soundings - Allows soundings to be turned on and off.

Show Fractional Soundings - Allows for display of the fractional part of a sounding value. If this is turned off, only the whole number part of the sounding is displayed.

Safety Depth - Controls the coloration of soundings. Soundings less than the safety depth are highlighted (bolded) to indicate unsafe waters.

Safety:

Deep Contour - The contour line at which deeper depth areas are considered deep waters, and colored accordingly.

Safety Contour – The contour line used to determine safe and unsafe waters. Depth areas less than the safety contour are unsafe waters and depth areas deeper than the safety contour are safe waters. The value of the safety contour affects the coloration of depth areas depending on whether 2- or 4- color shading is selected. The safety contour is drawn thicker and bolder than all other contour lines to indicate the selected safety contour.

Shallow Contour - The contour lined at which shallower depth areas are considered shallow waters, and colored accordingly.

Text:

Display Text – Controls display of text on S-57 charts (not including soundings - see above)

Show Important Text Only – If checked, only important text will be shown, otherwise all text will be shown.

Lights:

Display Lights – if checked, Lights are displayed.

Full Length Sector Lines – if checked, the entire length of sector lines for Lights (the lines extending from lights indicating the rotation angles of the Light) will be displayed.

Show Light Descriptions – if checked, textual descriptions of Lights will be displayed.

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Recording Options

The Recording setting is used when saving Trajectories, and determines how many data points are recorded. The more points recorded, the more space will be needed to save them. Tracks are limited to 43,200 points (12 hours of recording by time with interval of 1 second). Once a track exceeds this limit, a new track is created.

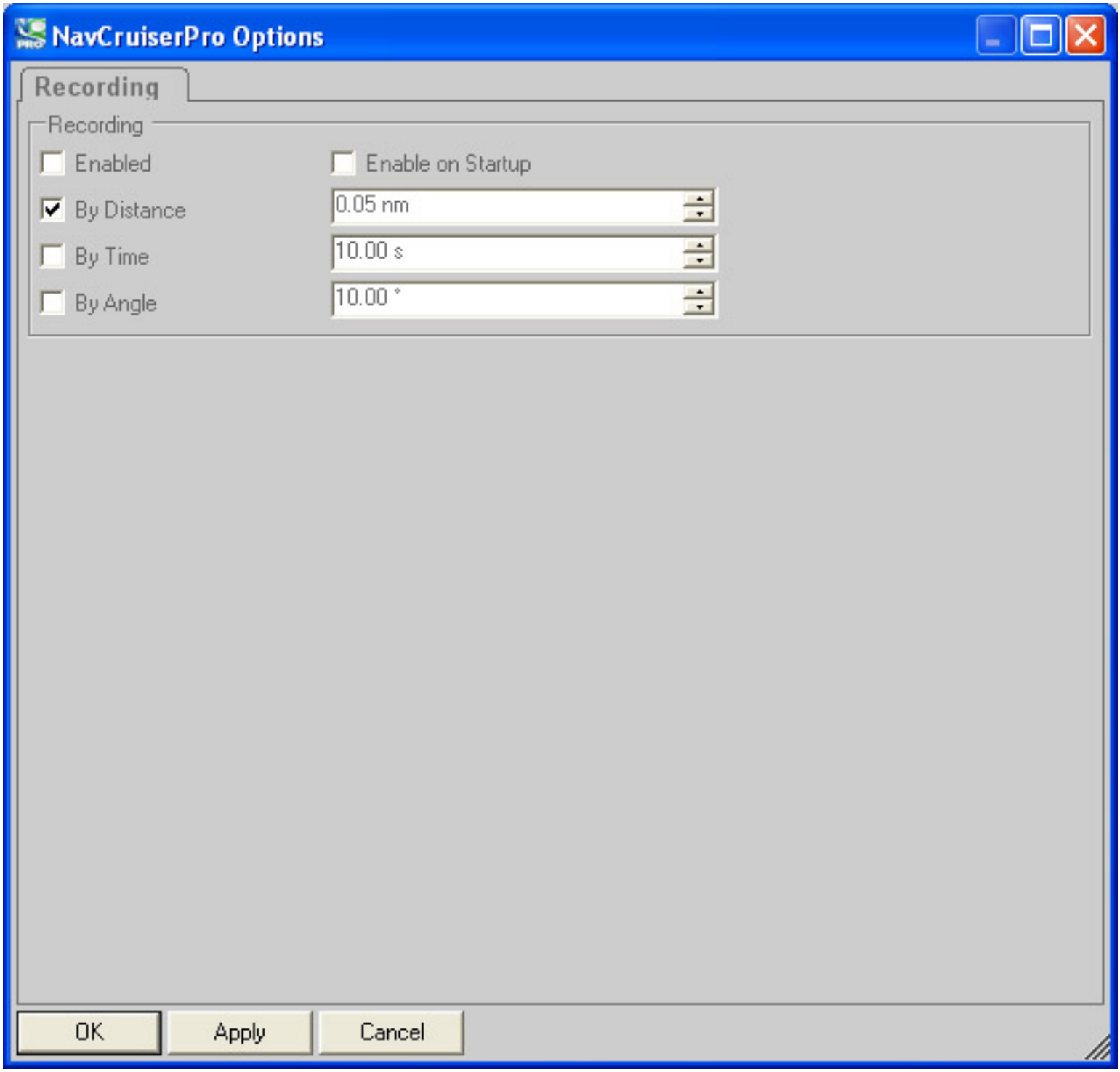
Enabled - Turns recording on and off

Enable on Startup - Determines if recording will be turned on at startup.

By Distance - If enabled, a data point will be recorded every time the distance changes more than the specified length

By Time - If enabled, a data point will be recorded at intervals equal to the interval specified

By Angle - If enabled, a data point wil be recorded every time the heading changes more than the specified angle.



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Printing

- About Printing
- Print
- Print Options
- Page Setup
- Print Preview
- Print to File

About Printing

NavSim software has extensive support for printing Charts, Routes, Zones, Markers, Trajectories, Tidal Stations, Current Stations, Annotations, Marinas, Photo and Geo Locations and Distance Tools.

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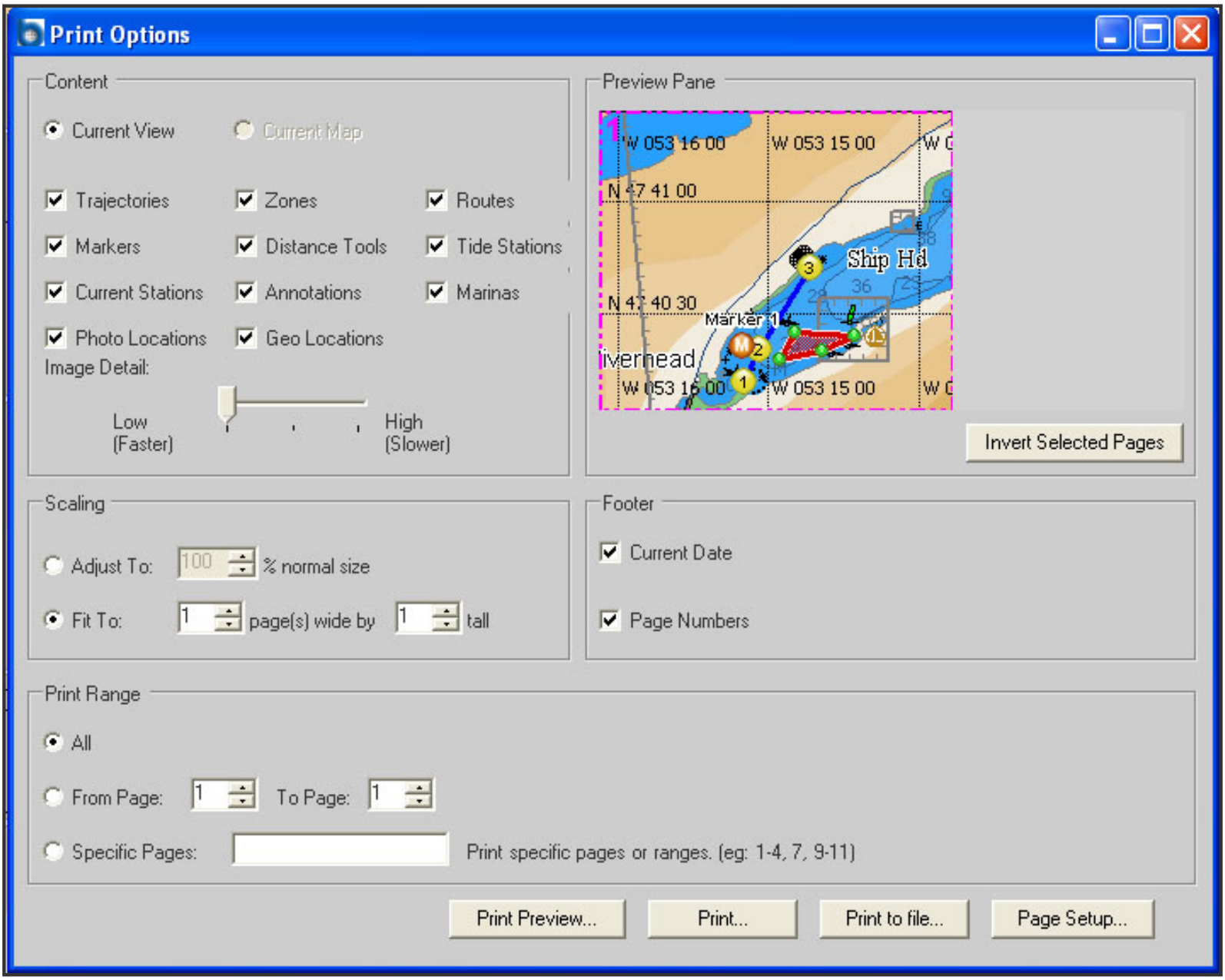
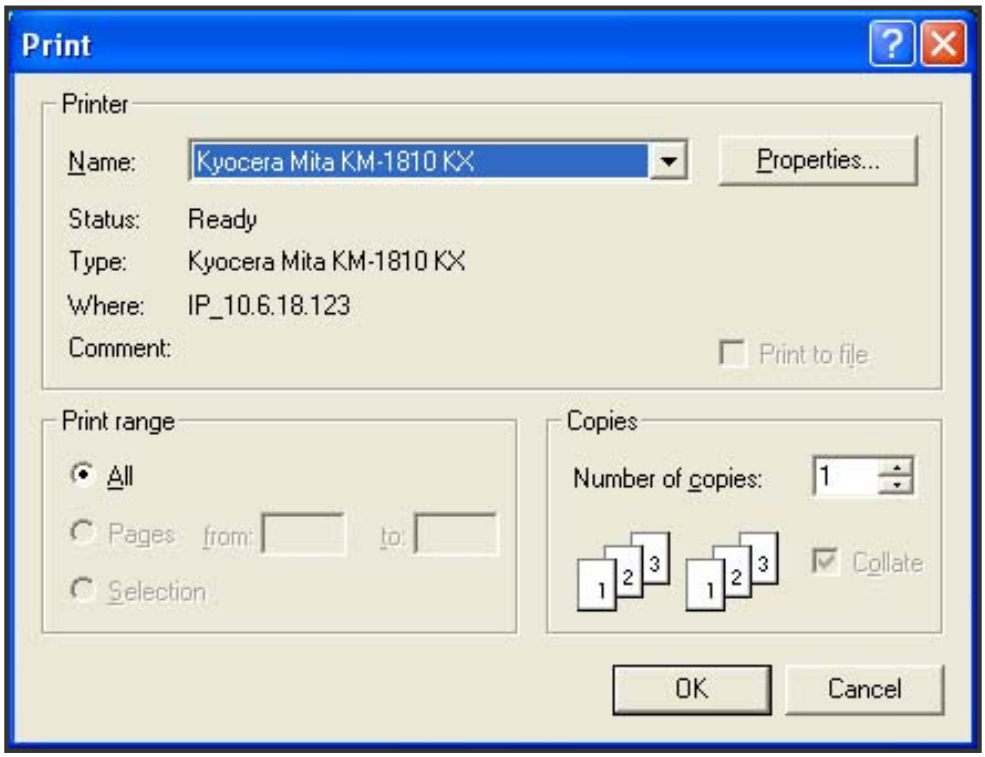
Print

The to make a printout, go to the Main Menu and select Print under the File option.



Clicking the Print button will open the Print Dialog.



Clicking the OK button will send the print job to the selected printer. The resulting printout will be of the current view on a single page, with all screen objects included. Logos will be printed in the margins and the page number and the date and time of the printing will be shown on the footer of the page.

Preview Pane

The rectangular cell on the right side of the Print window is called the Preview Pane. This is not to be confused with Print Preview which is a separate topic. The preview pane simply gives an idea of what content will be printed and how it will span across multiple pages. In some cases this preview may not be identical to user settings and should only be used as an estimate. Clicking pages in this box will select or deselect the page for printing only specific pages. See the section below entitled Print Range for more information. The Invert Selected Pages button will allow you to select and deselect certain pages. This can be particularly useful when printing a grid of pages.

Content

The content area controls which image will be sent to the printer and at what quality.

- Current View: Prints the image currently in view on the main screen
- Current Map: Prints the entire map or Chart specified in the Info cell
- Screen Objects: Toggles printing of the following in Current View mode
  - ***Trajectories***
  - ***Tide Stations***
  - ***Marinas***
  - ***Zones***
  - ***Current Stations***
  - ***Photo Locations***
  - ***Routes***
  - ***Annotations***
  - ***Weather***
  - ***Markers***
  - ***Distance Tools***
  - ***Geo Locations***

- Image Detail: Specifies the amount of detail that should be extracted from the current image. More detail requires more of the computer's memory and will be slow for large print jobs.

Scaling

These options specify how the image should be scaled to a desired size or specified number of pages

- Adjust To: Scales the image to the desired percentage
- Fit To: Specifies the maximum number of pages wide or tall for the image

Footer

- Current Date: Prints the date of printing in the footer
- Page Numbers: Prints the page number for each page

Print Range

- All: Prints all the pages
- From/To Page: Prints a range of pages starting at the From Page and ending at the To Page
- **Specific Pages:**Individual pages can be printed by separating them by commas. Also, ranges of pages can be printed by separating two pages by a hyphen. For example, the text 1,4,6-10 would print pages 1,4,6,7,8,9, and 10. In addition to typing a range, pages can be selected or deselected by clicking them in the preview pane.

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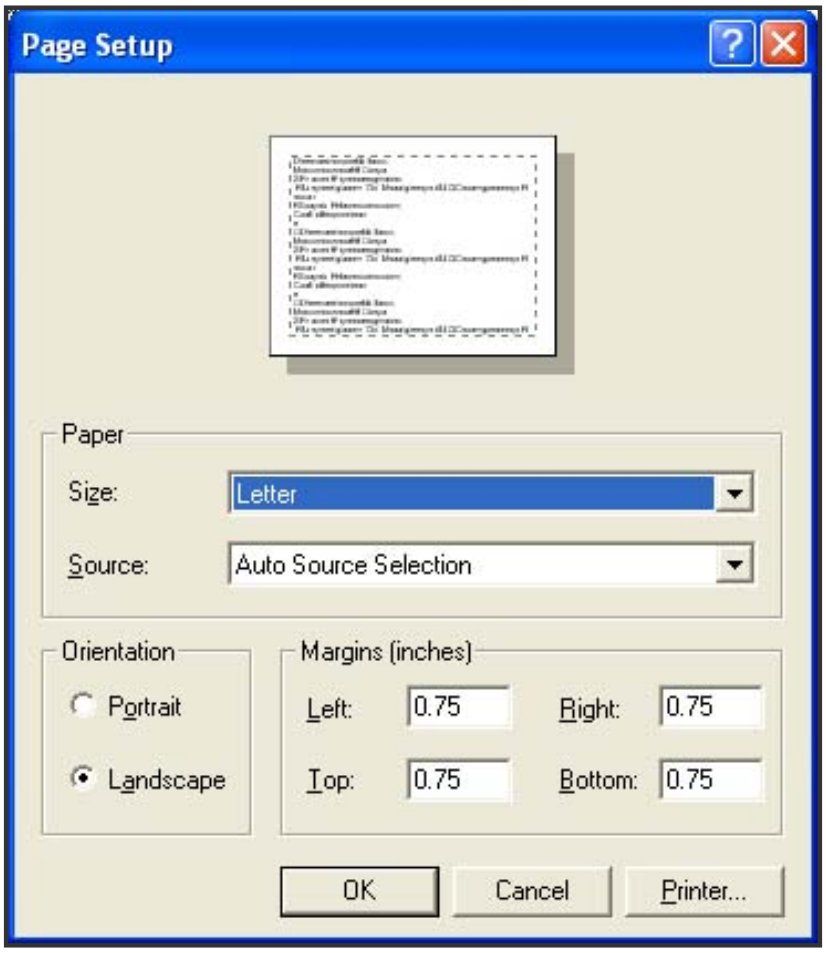
Page Setup

To set margins or change orientation, click Page Setup in the Print Page. The standard Page Setup window will appear.



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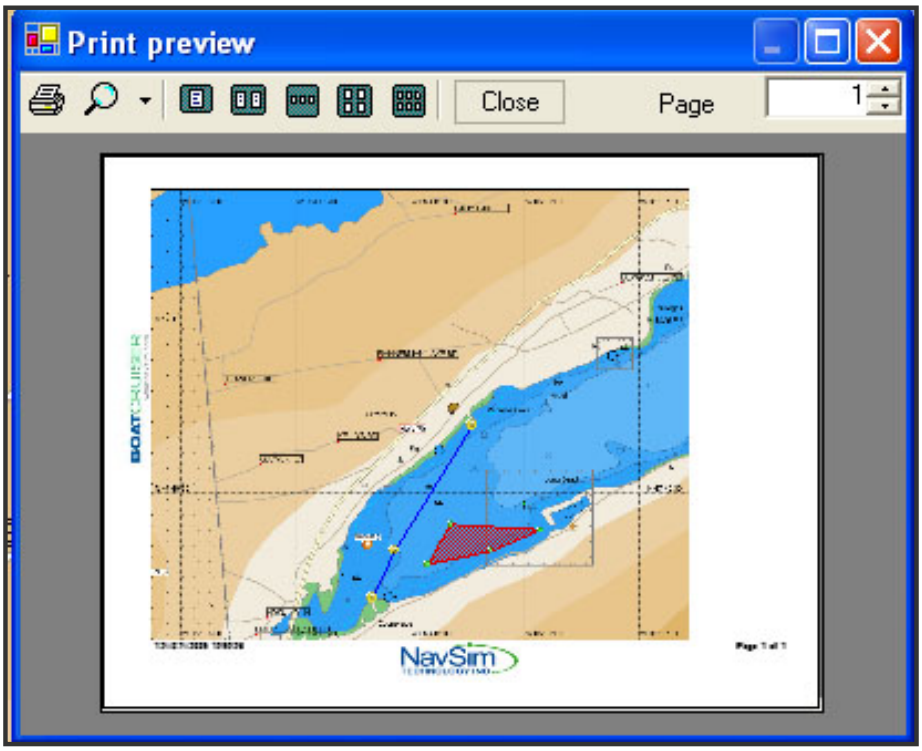
Print Preview

To see how the picture will look before you print, click Print Preview from the Print page.



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Print To File

Clicking this button will display a standard Save As dialog box that lets the you choose a file name and type for the file that will contain the content to be printed. Four image formats are available to print to:

- Bitmap
- JPEG
- TIFF
- PNG

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Range Tool

This tool can be used to display an area within a certain distance from a specified central point.

How To Use

The Range Tool is located in the middle of the Main Toolbar. To make a range measurement, simply left-click on the Range Tool button

, and then left-click on the point from where you want to measure the a range.

As you move the mouse, a circle will be drawn whose radius is from the initial point to the current cursor position.

left-click on the chart again to set the final radius of the circle for the range measurement. This measurement will stay on the chart until you go to use the Range Tool again.

To remove distance measurements from the view, press the Clear Distance Tools button

on the Main Toolbar.

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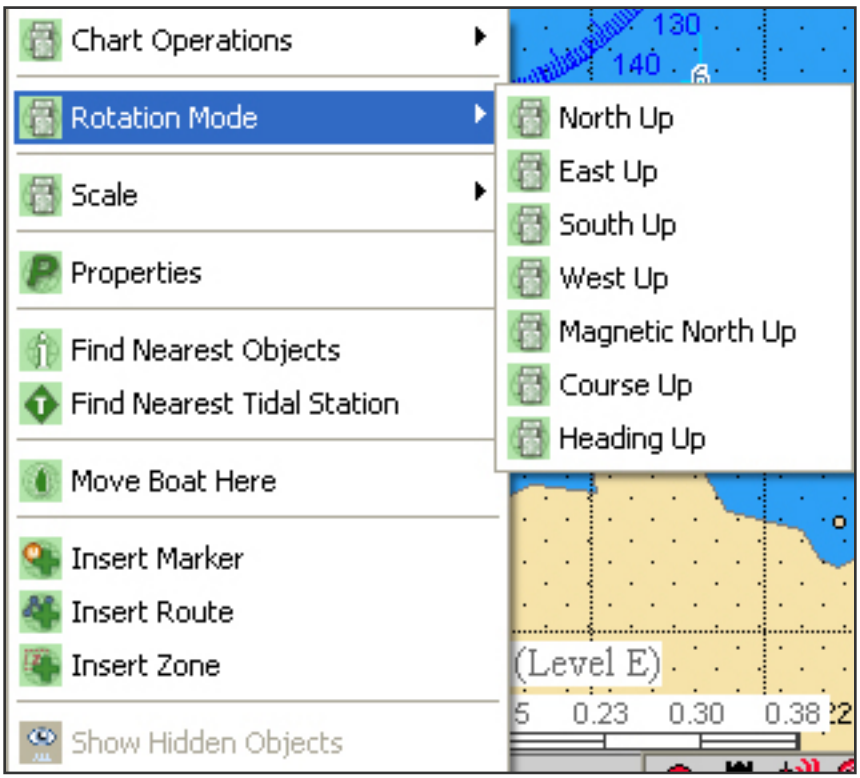
Rotated Views

There are several chart rotation modes: North Up, East Up, South Up, West Up, Magnetic North Up, Course Up and Heading Up.



North Up - The default rotation mode where north is pointing up.

East Up - Rotation mode where east is pointing up (NavCruiser PRO only)

South Up - Rotation mode where south is pointing up (NavCruiser PRO only)

West Up - Rotation mode where west is pointing up (NavCruiser PRO only)

Magnetic North Up - Rotation mode where magnetic north is pointing up.

Course Up - Rotation mode where the chart is rotated so that the vessels course is pointing up.

Heading Up - Rotation mode where the chart is rotated so that the vessels heading is pointing up.

The rotation mode can be changed from the main menu under "View->Rotation Mode". This menu item works on the last used chart view. See split screen for more information. The rotation mode can also be changed from the chart context menu under "Rotation Mode".

Split Screen

Split Screen is available in NavCruiser PRO only. To enable split screen, you must create a layout with "Chart View Primary" and "Chart View Secondary" cells.

Many program features are common to both the primary and secondary chart view such as: rotation mode, data source, zooming, tilt etc... However there is only one control, e.g., menu item, button, etc. per feature. In this case the control operates on the chart view that was last clicked on. By default, the primary view is used.

The intended purpose for split screen was to not interrupt the follow vessel option in the primary chart view. So if you need to pan to a different chart area than where you are currently navigating, you should use the secondary chart view. Also, if split screen is enabled and the software needs to jump to a location in response to an alarm, it will be done in the secondary view. Follow vessel onlys works in the primary chart view.

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Tips on using SailCruiser and SailTimer© Tacking Tool:

The SailTimer feature in SailCruiser is a unique tool to allow sailors to plan and complete their journey by determining the optimal tacking routes and Time To Destination (TTD). The following is a brief explanation of how to set up this feature. Further Help and feature updates will be provided in automatic online updates and at www.navsim.com.

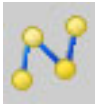
SailCruiser is designed to help resolve the traditional sailor's dilemma of how far off the wind to sail, when heading upwind. Should you simply maximize your speed? Should you pinch close to the wind to minimize the distance? SailCruiser shows you the optimal tacking angles to arrive in the shortest time. Given the directions to your target and of the wind, it finds you the best tradeoff of speed and tacking distance. If you are an advanced user, you can even enter individual polar data to customize the program for your own boat's unique performance on different points of sail.

NavSim provides a simple interface and the following easy steps aim to assist in this process.

Setting up:

1. Please refer to the Help Menu in SailCruiser for plenty of program specific features and functions.
2. HULLSPEED: Click on Tools, Options, Boat to enter your boat's Length Water Line (LWL in feet). The program will then calculate your boat's hull speed for you (i.e., the maximum speed for a displacement keelboat). You can also enter the hullspeed yourself if preferred. Click Apply and OK.
3. WIND: The wind direction and speed can be entered manually (in Wind Control) or picked up by your anemometer (use import device wizard). If entering manually, simply move the orange arrow to the specific wind direction on the chart or adjust the wind direction and speed in the Wind Control cell.

Planning Before Leaving:

Set up the route: Click on  ,move cursor on the chart. Click once on chart locations to specify waypoints. A second click on the last waypoint will end the route. The blue line indicates the intended route (route that was just set up), while the red line is the calculated optimal tacking route.

Tacking tracks may be adjusted if they go over land, impede a high heeling angle or if the original route is altered. By right-clicking on the yellow Mark on the red line , there are several options:

- Switching from Starboard to Port Side and vice versa. If the original tacking line is not optimal for the journey, it can switch sides by clicking on this button. Once the tack switches sides, it is automatically locked (as seen with a deep black circle) .
- Unlock/ Lock. Use this function to lock or unlock your tacking routes.

Waypoints can also be moved to adjust tacking routes. These can be locked by right clicking on the waypoint. If a long tack crosses land, just indicate a nearer waypoint. To insert additional waypoints, right-click on the desired location on the route and click Insert Waypoint.

When Underway:

Create a new layout with all relevant meters and controllers (cells) or – choose the “Sail—On Water” default layout

- Check the connection to the GPS unit and with sails up, right-click on the desired waypoint of the route and choose Activate Route from this waypoint. Before reaching this waypoint, the cyan color set of tacks corresponding to the instantaneous position appears, with the first tack corresponding to the actual boat’s heading.
- Click on the route to invoke the optimal tacking scenario (red). This is the benchmark presenting the optimal, desired tacking that was created in planning the voyage.

Optional Polar Plots (for Racers and Advanced Users):

A Polar Plot shows your boat’s projected speed with different wind speed and wind directions. You may be able to get precise data from your manufacturer, or you may have reasonable estimates from your own experience with the boat, that help to add precision to SailCruiser calculations.

Polar Plots can be modified to reflect your boat’s unique speed and pointing abilities by directly adjusting the polar lines:

- If Polar Plots issued for the boat (see www.catalina30.com/TechLib/Polar%20Charts/polar_diagrams.htm for example) this information can be inputted in the Polar Plot cell (see below).
- If Polar Plots are not provided by the boat builder, this data can be collected and inputted during voyages. More specific instructions will be provided through a free update soon.
- Polar Plots can be modified further to reflect the specific sailboat by directly adjusting the polar lines:

- Choose the speed of wind from the pull down menu or write the wind speed in the field (e.g., 16 kn).
- Click on Start button and left click in the Polar Plot area. The tool tips will help you to set the precise values in the right location.
- After completing the curve, click on Finish button. The Polar Plots for other wind speeds will be automatically generated, consistent with the shape of the first curve.
- Each curve can be adjusted according to the individual data. The results are automatically saved and the tacks will be calculated taking every adjustment made.
- Right click on the Polar Plot to save the current plot as the default.
- Polar Plots can also be imported/ exported.

Notes:

- To hide route leg info and thus reduce screen clutter, click on Tools, Options, General. Uncheck Route Leg Info under Objects Display.
- To disable the Wind Arrow on the main screen, click View and uncheck Wind Arrow.
- Please remember that the tacks are optimized for the fastest time to destination (TTG Dest) and may occasionally run through land. Tacking routes should be reviewed and rectified if necessary.
- The route and chart can be printed with the route table and all relevant parameters if desired.

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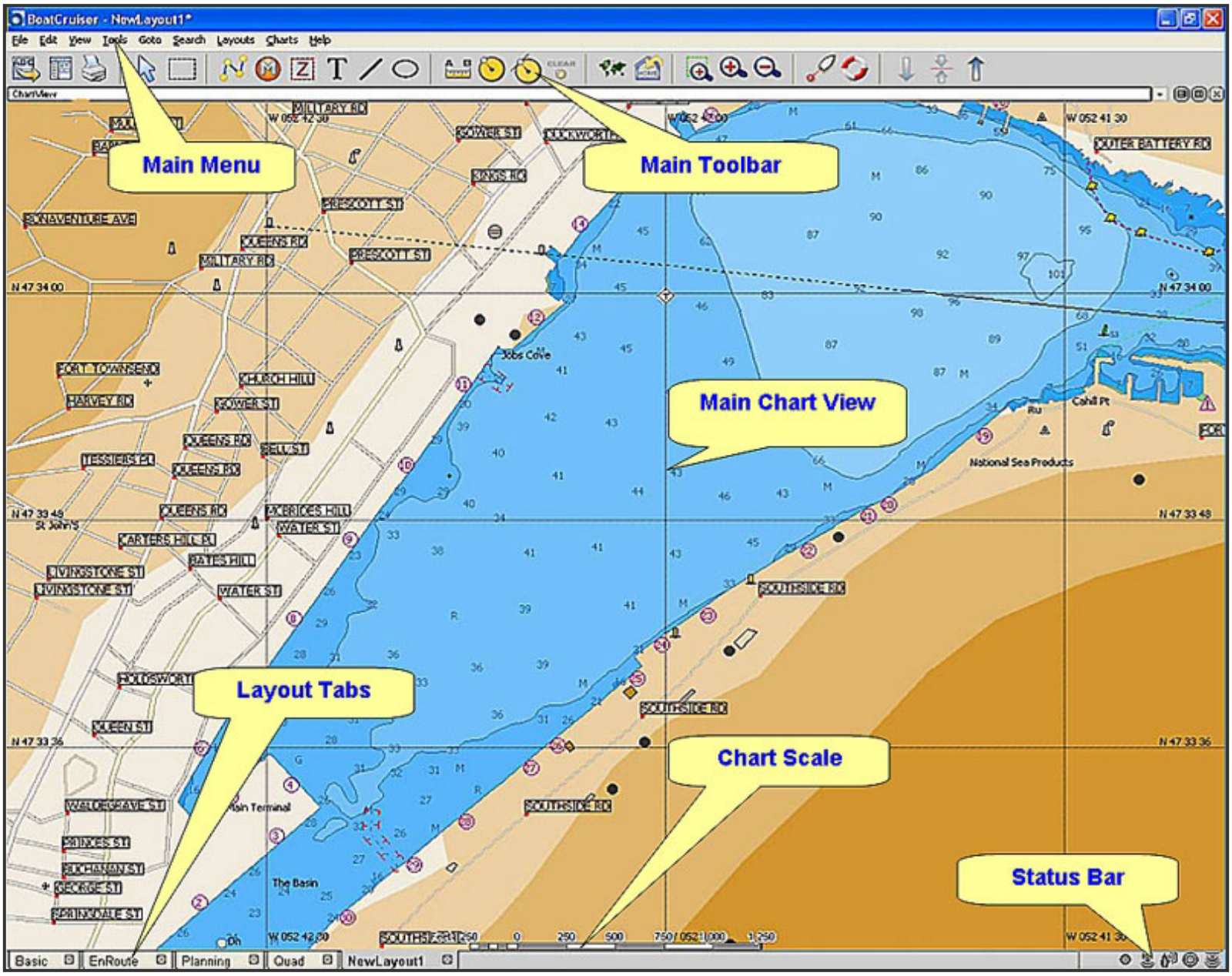
Screen Layout



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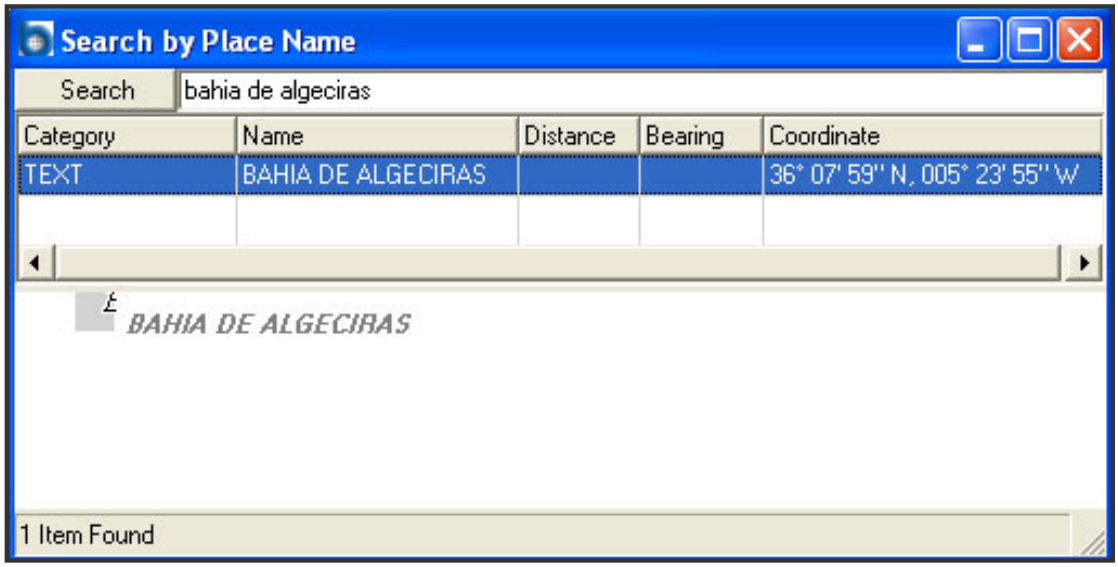
Searching

- General Search
- NavManager Search
- Search for Neareat Objects

General Search

By choosing the Search option from the Main Menu automatic searches can be performed for Place Names, Chart Objects, Ports and Services and User Objects.Simply type the desired object/location name, press Enter and BoatCruiser will perform the search. Once the object/location is found, double-click on the Coordinates in the Search box and BoatCruiser will display the selected location in the Main Chart View.



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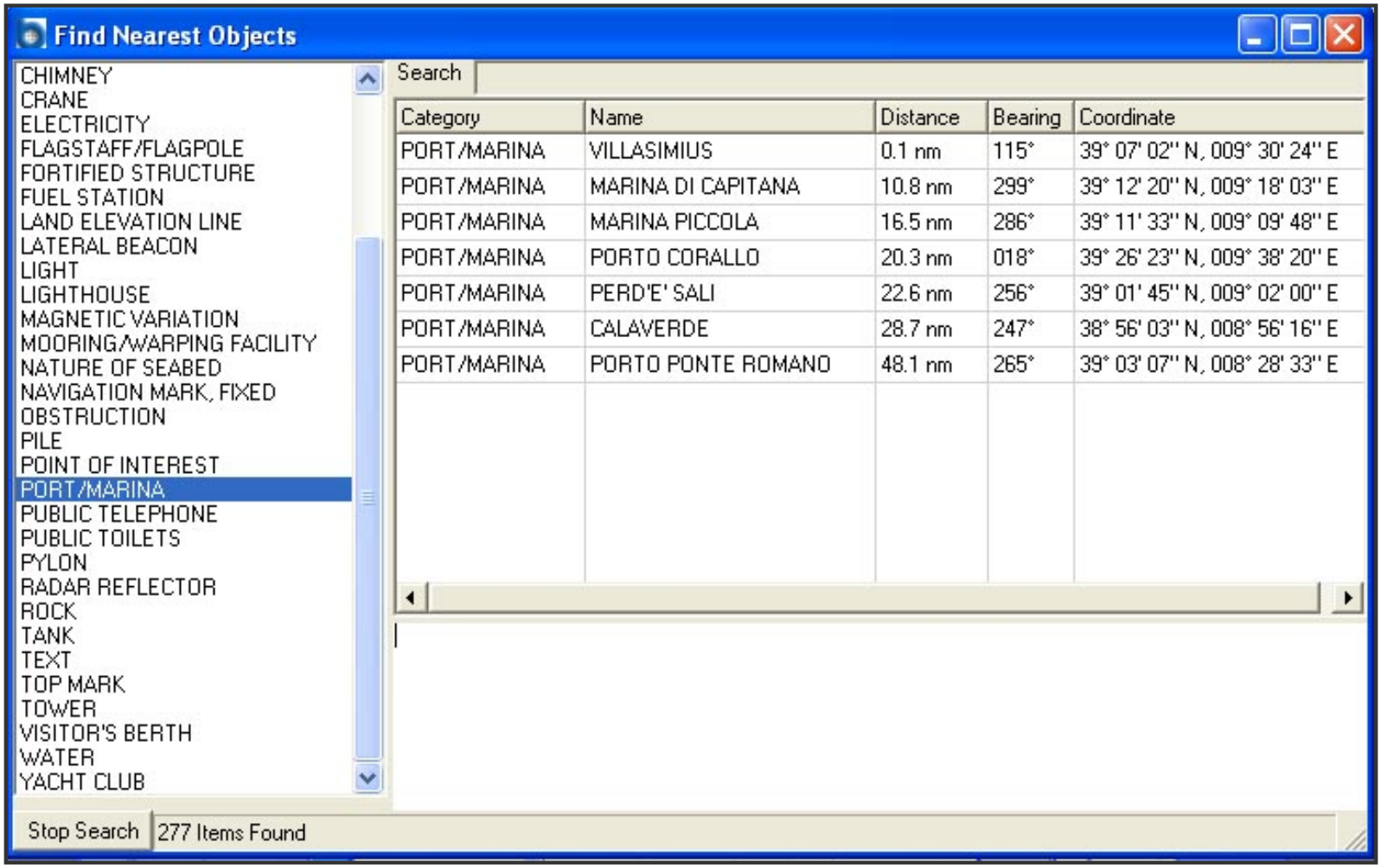
Search for Nearest Objects

A Search can also be performed for places and services that are in proximity to the current location by choosing Find Nearest Objects from the the My Boat Context Menu as well as the Chart Context Menu. A list of nearest objects from Anchorage Areas, through Marinas and Fuel Stations to Public Telephone locations will appear. Choose the desired amenity type in the Explorer Window and a full list will appear with exact location coordinates. Double-click on any of the locations and BoatCruiser will immediately display that location in the Main Chart View.



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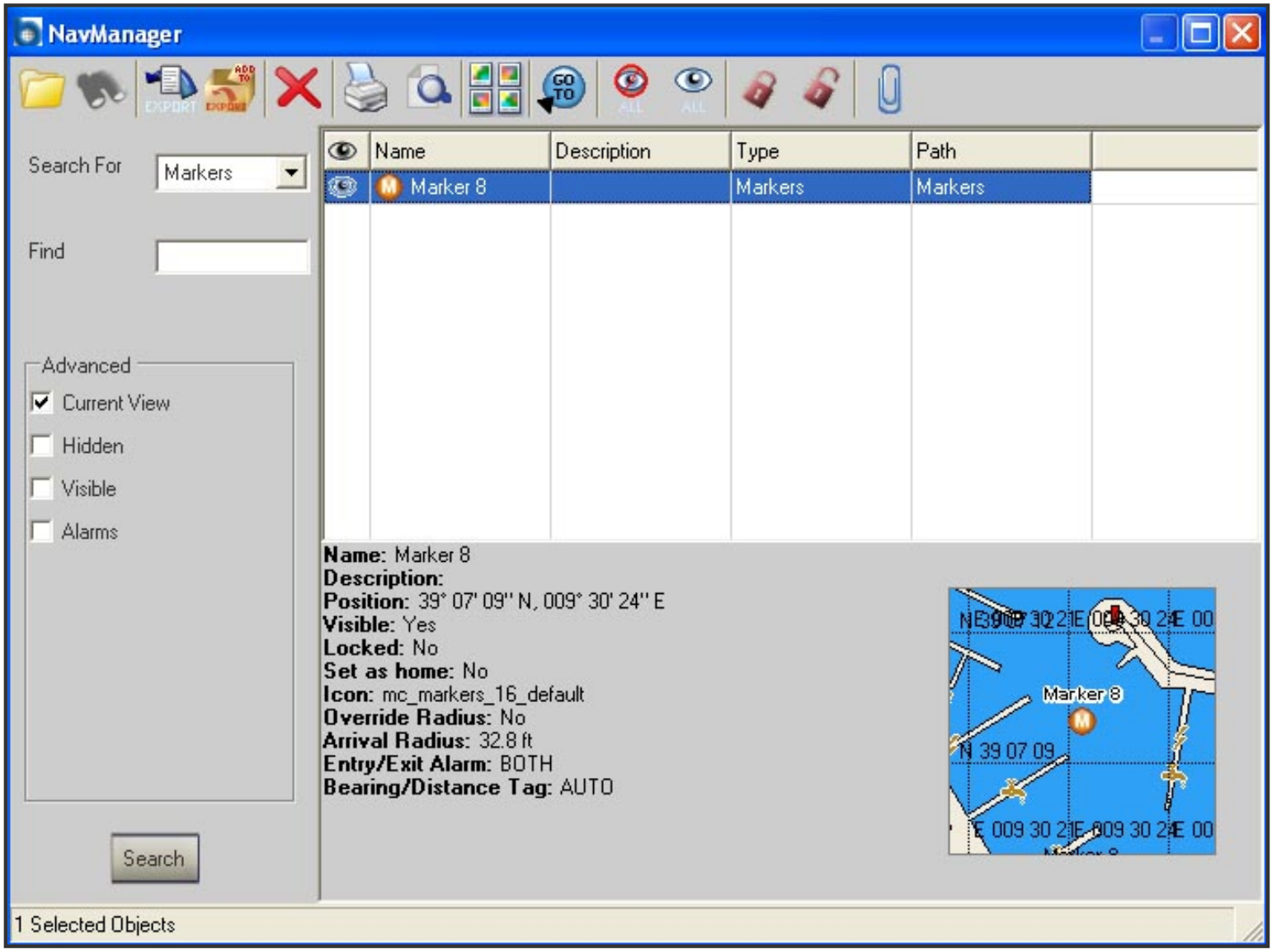
NavManager Search

Searches for any user created Objects including Routes, Markers, Zones, Trajectories and Text Annotations can be performed by choosing Search in the NavManager.



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SkyRouter Options

Status Bar

The Status Bar found in the lower right corner of the screen alerts the user as to which peripheral devices (recording, GPS, AIS, ARPA, Depth Sounder, Gyro, Anemometer respectively) are currently activated.

The record button is green when recording, red when not recording. Clicking the record button toggles recording on and off.

All device icons are red when the device is not connected, yellow when connected but no data has been received in the last 10 seconds, and green when connected and data is being received. Clicking on the device icons brings up the device options for that particular device.

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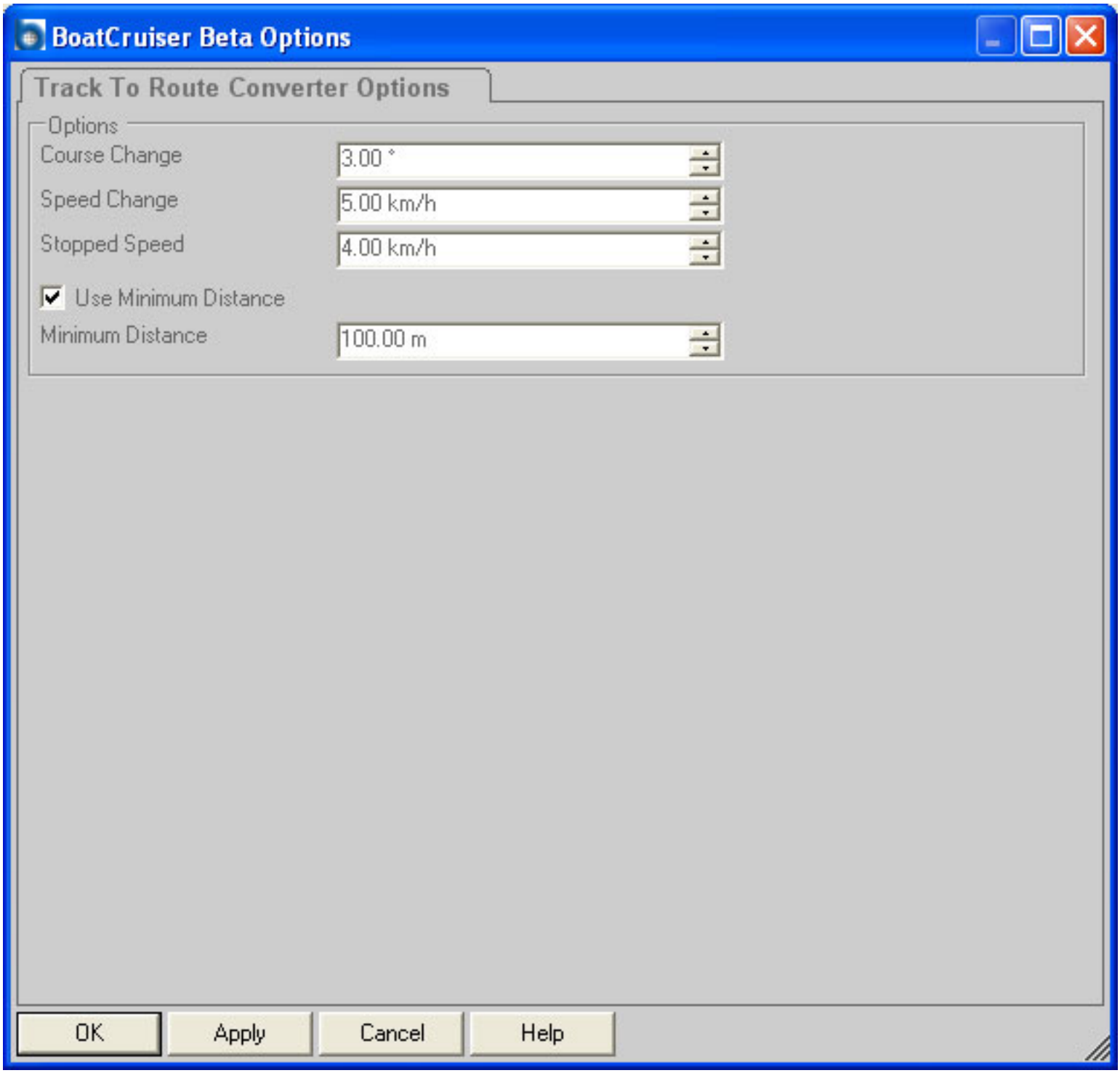
Track to Route Conversion

The Track to Route (T2R) Converter is used to make a route from a pre-recorded track. Right click on a track and click "To Route" to create a new route from the track. You should hide any route(s) that may be drawn on top of the track you wish to convert so that: 1) you can access the track with the right click since the route may block the track; 2) So you can tell which route has just been created.

The T2R options are available from "Tools->Options->Track To Route..." in main menu.



Inclusion / Exclusion Rules - These rules control the rules used to add and remove waypoints from the route being generated. The rule will only be used if the check mark next to the rule name is checked.

Inclusion Rules - The inclusion rules are used to determine what track points to use as waypoints in the route being created.

- Course - The point will be included for a waypoint if the difference between the course at that point and the last point added is at least the given value.
- Speed - The point will be included for a waypoint if the difference between the speed at that point and the last point added is at least the given value.
- Distance - The point will be included for a waypoint if the distance between that point and the last point added is at least the given value.
- Time - The point will be included for a waypoint if the time between the that point and the last point added is at least the given value.
- Include All - All points will be included as waypoints.

Exclusion Rules - The exclusion rules are used to reduce the number of waypoints added by the inclusion rules.

- Distance - A point will not be added if the distance between that point and the last point added is less than the specified value.
- Time - A point will not be added if the time between that point and the last point added is less than the specified value.
- Max Waypoints - No more ponits will be included if the number of waypoints exceeds the specified value.

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